Air-Conditioner Frequency-of-Repair Records

CONSUMER REPORTS

MAY 1968/FACTS YOU NEED BEFORE YOU BUY/NO ADVERTISING/50 CENTS

Household Moving
3000 readers report on long-haul van lines

Washing Machines
It still pays to price shop for an automatic model

Station Wagons
Road tests of Ford Fairlane 500, Chevelle Malibu, Plymouth Satellite, AMC Rebel 770, Oldsmobile Vista-Cruiser

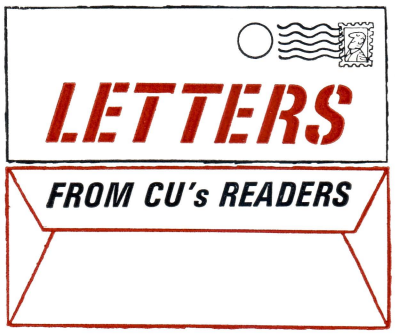
Cooler Chests
Which keep their contents cool longest?

Boys' Jeans
Durable-press blends resist abrasion better

Auto Cleaner-Polishes
Tests for gloss, durability, ease of application

Bait-Casting Reels
One is a Best Buy; three are check-rated

Window Cleaners
Do they make the job any easier?



Talking back to a computer

I would like to call your attention to yet another "hidden" charge involved in the accounting procedures of some department stores. Bamberger's computes its 1½ per cent service charge *not* for the unpaid balance but for the *full* amount of the bill, prior to subtracting any payment received. One has two alternatives. Either "give in" and pay the unjustly computed service charge, or start a lengthy correspondence—most likely a correspondence with a computer.

Once I chose the latter course, but I carried the battle onto the computer's home ground by describing my side of the story in IBM language: I punched my comments onto computer cards. And I won.

PRINCETON, N.J. S.D.

The range of special skills needed by consumers in the modern marketplace is staggering.

Open those packages

In the article on thermal underwear in the October issue of CONSUMER REPORTS is the statement that one "usually can't open the package to look the garments over carefully" before purchase. Is CU tacitly supporting the obnoxious merchandising practice of sealing products, often in tough plastic, so that the potential buyer cannot examine them? This practice is frequently accompanied by the plastering of concealing labels on the plastic so that the consumer cannot even see parts of the product.

I consistently open such packages before purchase—to see whether all the promised parts are present; to find out how many toothbrush bristles a label is hiding or, as is usually the case, not hiding; and for other reasons. Then, if I do not like the item, I leave the package in the display where I found it. I do not know whether a sales clerk has ever seen me do this, but none has ever spoken to me. A proper rejoinder to a complaining clerk or store manager might be that, if the buyer must buy without the privilege of first inspecting merchandise carefully, then the seller must accept full payment without first looking at the denomination of the bill or coin given to him.

SILVER SPRING, MD. J.B.F.

CU does not support, tacitly or otherwise, the practice of offering merchandise that can't be easily inspected. Rather than force the consumer to rip open closed bags, we think retailers should keep one sample of any such product available for inspection. We also think merchandise should be returnable at the store's expense if it is not as represented on the label or in the advertising.

Caveat emptor (cont.)

The moral of your short article called "An adventure in the auto marketplace" (CONSUMER REPORTS, January 1968) can apply as well to color-television sales. One dealer in this area attempted to charge me $24.95 extra for initial adjustment and setup. I found out only by accident—when I contacted the GE factory service outlet to make arrangements for initial service—that such service was supposed to be included in the purchase price.

CUPERTINO, CALIF. R.M.R.

When you purchase a color TV set, experiences similar to R.M.R.'s may be just the *start* of your problems, as the article on page 244 notes.

Dr. Burack replies

I enjoyed reading your review of "The Handbook of Prescription Drugs" in the January issue and am very pleased to receive your applause for the idea behind it, even if not for all the details of its execution. Some of your major criticisms warrant comment, however.

You rightly emphasize the possible pitfalls in a book addressed to both patients and doctors. This was my most serious concern. But when one considers that the pharmaceutical industry has been assaulting the minds of lay persons for years with sensational, self-serving material about prescription drugs, does it not seem reasonable to counter it by presenting another (I believe more reasoned and truthful) view to the public? Having given this my most serious thought, I decided that there is less likelihood of "pitfall" and more ethic in some-

CONTINUED ON PAGE 280

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CONSUMER REPORTS

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Almost any fisherman should be able to choose from among the 17 tested reels one that matches his degree of skill and level of interest. Three of the reels are check-rated, and one is a Best Buy

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The Plymouth Satellite, AMC Rebel, Ford Fairlane and Chevrolet Chevelle offer a feasible compromise between price and storage space. The report also includes road tests of the Oldsmobile Vista-Cruiser—full-sized in price and length, but an intermediate in other respects

COOLER CHESTS 268

CU rated 26 of these portable ice boxes—some jacketed in metal or plastic, others of inexpensive, all-foam construction

MOVING: STILL THE ROUGH ROAD TO HOME 272

A CU survey shows that movers often ignore recent regulations of the Interstate Commerce Commission designed to make moving less of an ordeal. Our report reflects readers' experiences—and passes on their advice on how to get your things from here to there intact

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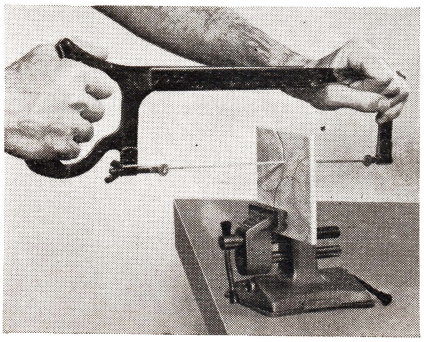
Once Over

It cuts both glass and tool steel

You can now fit your hacksaw with a blade that can cut through glass or tool steel. The *Rod Saw* (Remington Arms Co., Inc., Bridgeport, Conn.), $2, is a heavy steel wire coated with tungsten carbide particles. It's about 10 inches long and 1/10 inch in diameter, and it really does what the manufacturer claims.

We cut through a soda bottle without much trouble, sawed straight lines and curves in ceramic tile and sliced through a brick easily. We even squared up the jagged end of a broken file; a grindstone would have done the job faster and more easily, but not every home workshop boasts one. The *Rod Saw* was much more effective than a standard hacksaw blade in cutting through steel cable.

The manufacturer advises rotating the blade from time to time for maximum wear, but we sawed away with the blade in fixed position to see how long it would last. The highest peaks of the tungsten carbide wore down quickly, reducing effectiveness slightly. But still the *Rod Saw* went on through job after job—bottle, brick, ceramic tile, four-inches of ⅛-inch-thick hardened steel—



and still had plenty of bite left. You should get lots of use from this tool.

A word of warning from the manufacturer: Don't use the *Rod Saw* on jobs where a standard hacksaw blade will do; soft materials may clog the carbide particles and cut down on the blade's performing ability.

Less ounce to the bounce

On its label, *Diamond Crystal Salt* claims that "every grain has facets like a tiny diamond crystal. Unlike all other salt, which looks like plain cubes and bounces off your food, Diamond Crystal . . . has facets to cling. Stays where you shake it. . . . Makes food taste uncommonly good." According to CU's tests, *Diamond Crystal Salt* does indeed seem to have, as advertised, less bounce to the ounce than some "common" salts.

It may be that salt bouncing off your food has never seemed a major life problem. But whether it comes in cubes or "diamonds," *Diamond Crystal* has another characteristic, we discovered, that could be much more unsettling than any tendency of Brand X salt to ricochet off the asparagus spears: *Diamond Crystal* also has less ounce to the cube—cubic measure, that is. According to our tests, you'd have to use about a third more of *Diamond Crystal*, by volume, than you would of three other widely available salts (*Morton, Red Cross* and *Sterling*), which we measured for comparison.

Since the volume amounts usually given in recipes—¼ teaspoon, ⅓ cup and so on—are presumably arrived at with plain old cube salt in mind, the housewife using *Diamond Crystal* would have to, first, remember about the uncommon measurements for her uncommon salt. Then she'd compute the total volume of the amount called for plus the extra one-third. Then, as in the case of ⅓ teaspoon (¼ teaspoon plus one-third of ¼ teaspoon) or 4/9 cup (⅓ cup plus one-third of ⅓ cup, if you're still with us), she may have to estimate a volume for which most kitchens have no standard measure. By that time, she may feel that the salt hath lost its savor.

Diamond Crystal does come in a container larger than those of the other three brands—large enough to bring it up to their uniform, 1-pound-10-ounce weight. But at the table, it might well need more shake to the steak to make up for less ounce to the bounce.

That pretty flower can be deadly

The U.S. Public Health Service says that it receives about 12,000 reports each year on children made ill by eating toxic plants. Some of those plants can be lethal. So with summer around the corner, it would be wise to acquaint yourself with some of the more common poisonous plants, and to warn your children against eating—or even chewing—*any* plant that doesn't appear on the dinner plate.

The conscientious parent who warns a child not to eat wild mushrooms and tells him how to recognize poison ivy and poison sumac may never think to warn against oleander, yew, rhubarb leaves, poinsettia, jack-in-the-pulpit and jimson weed. All of those can be deadly, according to Dr. John M. Kingsbury of the New York State College of Agriculture, Cornell University, a lead-

ing authority on toxic plants. Dr. Kingsbury and the National Safety Council also call the mountain laurel and castor beans potentially lethal. The National Safety Council adds rhododendron, red sage, jasmine and azalea to that category. Plants that can bring on severe digestive upset include the common buttercup, lily of the valley, daffodil bulbs and wisteria.

Some poisonous plants look and even taste like attractive fruits and vegetables. The water hemlock and poison hemlock, both lethal, have been mistaken for wild carrot; the dangerous nightshades bear cherry-like fruits.

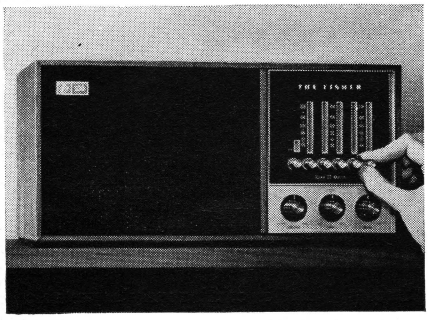
The U.S. Department of Agriculture tells CU that your local county agent is a good source of information on poisonous plants found in your part of the country.

Now there are two good small FM radios

Up until several months ago, CU knew of only one compact table-top FM radio that delivered really good tone. That was the *KLH Twenty-One,* which we reported on in March 1967.

Now there's another. It's the *Fisher 100 Microceiver* (Fisher Radio Corp., Long Island City, N.Y.), $99.95. At 6½ inches high, 13½ inches wide, and 6¾ inches deep, it's a lot like the *KLH* in size and shape. Also like the *KLH*, the *Fisher* is a self-contained, FM-only, mono-only radio, with all its innards and its loudspeaker packed into one sealed box.

We found little to choose between the two sets in tone quality. The *Fisher* leans toward crisp sound; the *KLH*'s tone is warmer. But CU couldn't say that either sounded significantly "better" than the other.



THE FISHER 100 MICROCEIVER

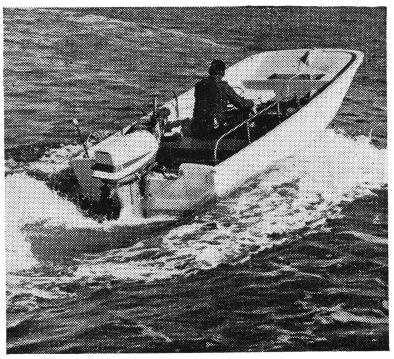
The most significant difference is in the tuning arrangements. The *KLH* has a conventional round dial. The *Fisher*'s tuning setup is rather offbeat. There are five tiny knobs, each at the bottom of a vertical scale that covers the whole FM band. You push in a knob and turn it to move the scale's pointer to a station. Then you leave it. When you want that station later, you simply push the knob in. Using all five knob-scale combinations, then, you can preset five stations to come in on push-button tuning.

Once you get it set up, the system is dandy—provided you confine your listening to the same five (or fewer) stations. It's easy enough simply to push the knob for the station you want. But the setting up, while tolerable, isn't easy. The knobs are too small and close together for easy handling. The scales have too few numbered markings for easy station finding. And you have to do a lot of knob-turning to move the pointer just a short distance. Most people, we think, would find those small knobs at least annoying. And some—those with large fingers, for example, or women with long fingernails—may run into real trouble. Try it for yourself before you buy.

It may be, though, that once you got five stations preset, you'd never need to dial again; perhaps you receive no more than five FM stations whose programs interest you. If so, the *Fisher* should be a pleasure. As a radio, the set did well in our tests (and somewhat better than the *KLH* did). We found high sensitivity (strong response to weak signals). Selectivity (rejection of stations near the one tuned in) and capture ratio (ability to suppress a weak station in favor of a strong one at the same tuning point) were good. The AM rejection, an important defense against noise, was good enough—about on a par with that of the *KLH*. Image rejection (rejection of interference from certain stations outside the band), freedom from front-end overload (spurious response to very strong signals) and freedom from overall distortion were a little lower than in the *KLH* radio, but good overall.

The set covered a very wide range of frequencies for its size—from about 100 Hz to about 12,000 Hz (about an octave and a half below middle C to

Work in Progress



Boaters or would-be boaters will be especially interested in CU's report in the June issue on outboard motors in the 28-to-50-horsepower range. We're testing them under actual use conditions

OTHER PROJECTS SCHEDULED FOR FUTURE ISSUES

WINDOW FANS
This project on 20-inch fans includes about 20 models, some portable and some made for permanent mounting

ROOM DEODORIZERS
CU used more than a dozen products in odor-laden rooms, then asked a test panel to sniff out the most effective

GAS WATER HEATERS
About a dozen models will be evaluated for a variety of factors

INDOOR-OUTDOOR CARPETS
Tests on this relatively inexpensive floor covering indicate that many models may be flammable

COCKTAIL WINES
Experts are tasting and sniffing sherries, vermouths and aperitifs, judging them for flavor, aroma and body

STROLLERS
Safety, versatility and durability are what we're looking for in this product

Portable AM radios

Twin-lens reflex cameras

Tires

Compact phonographs

Mattresses

Coffee-makers

Quote without Comment

"'We don't make [blue suede shoes] because we couldn't give them away,' laments T. W. Florsheim, president of Weyenberg Shoe Manufacturing Co. in Milwaukee.

"Mr. Florsheim is sorry about the change. 'We'd love to be selling them now,' he says, 'They scuff easily, can't be polished and don't look nice for very long.'"—THE WALL STREET JOURNAL.

"One significant sign of spreading *empathy between* advertising and its regulators is the announced policy by the Federal Trade Commission that the advertiser cannot be expected to think *in advance* of every possible misconception to which his advertising claims may be subject. Says the FTC:

"'A representation does not become "false and deceptive" merely because it will be unreasonably misunderstood by an insignificant and unrepresentative segment of the class of persons to whom the representation is addressed.'

"A far cry from the FTC's previous pronouncements that advertising, to be scrupulously honest, must be so written that it will be understood 'by that *vast multitude* which includes the *ignorant*, the *unthinking* and the *credulous*.'"—GREY MATTER, *house organ of Grey Advertising, Inc.*

"Automobile manufacturers are using the warranty program as a do-it-yourself car completion device. During the warranty program, the owner is given the opportunity to complete his own car and get essential things done—such as attaching the steering wheel, rewiring the horn, and getting the brakes hooked up. . . . In order to complete my 1965 automobile under the warranty, I lost the use of my car for 11 days and I had to arrange for travel to and from the dealer's repair shop on 11 occasions. . . . If the automobile manufacturers think I want to go through this again on a new 1968 model, they have another thought coming. My 1965 model has just been completed, and now I want to enjoy it."—*Representative Charles Vanik in* THE CONGRESSIONAL RECORD.

near the top of the musical range). That's less than you would expect in a top-grade components system, but enough for music with substantial bass and crisp highs—and far beyond the performance of most table sets. Audio distortion (distortion in the amplifier and speaker) was low at normal volume. And the set put out a very loud sound before distortion became really obtrusive, considerably louder than the top acceptable sound of the *KLH*.

The *Fisher* is also better shielded than the *KLH* is. In some locations, particularly near airports, the *Fisher's* shielding may help control the kind of interference that a few *KLH* owners have written us about. (CU had no interference problems when we listened to our own *KLH* near an airport.)

The *Fisher* lists for $10 more than the *KLH*, but the *Fisher* is more likely to be discounted. So if you find the two sets at about the same price, you can let a comparison of their features and tone characters govern your choice.

A product in search of its own identity

If the package of *E-Z Magic Mender* our reader sent us is typical, buyers of the product are going to have a tough time deciding what they can do with it and what they can't.

E-Z appears to be a sort of glue or glue-like substance to be used for mending holes and tears in fabric. It comes in a familiar packaging form: a metal tube held onto a display card by a transparent plastic bubble. Until the bubble is opened (after purchase, of course), the buyer can see only the two sides of the card and the front of the tube; the back of the tube is next to and covered by the card.

Among the explanatory items on the back of the card is the information that "E-Z MAGIC MENDER is non-inflammable," and that "It can be cleaned from fingers by simply rubbing off." There's also a capitalized caveat: "DO NOT USE ON FABRICS THAT ARE CLEANED WITH TETRACHLORIDE OR SIMILAR CHEMICAL."

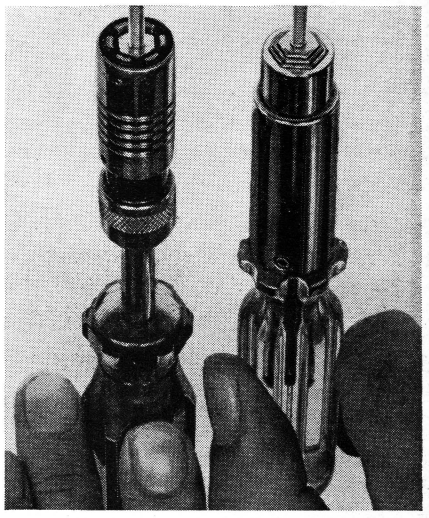
When the buyer gets home with his *E-Z*, opens the package and looks at the back of the tube, he may well wonder if he actually got the product he intended to buy. There, the information goes like this: "CAUTION: INFLAMMABLE MIXTURE. DO NOT USE NEAR FIRE OR FLAME. CONTAINS . . . METHYL ETHYL KETONE." (CU found that the product was indeed flammable and would burn readily.) The tube instructions continue: "WASH HANDS WITH SOAP AND WATER AFTER USING." And: "It may . . . be dry cleaned with little adverse effect."

If, in spite of all the conflicting information, the buyer decides to go ahead and use *E-Z* anyhow, he'll then have to cope with the directions. The front of the display card tells you to cut out a patch of fabric that matches the item to be mended, cover the patch with *E-Z* and press the patch over the hole or tear. The back of the card tells you to anchor the self-patch to a cotton patch of "similar color" *before* mending the hole or tear.

Maybe it would just be simpler—and safer—to use a needle and thread.

Two adjustable nut-drivers

Hexagonal nuts and hex-head bolts and screws come in a wide—sometimes irritating—variety of sizes. It can be a nuisance to hunt for the right size of driver from among those in a typical set of seven sizes—scattered, perhaps,



Stanley (left) is continuously adjustable within its range; Vaco grips four sizes

through your tool box. And it's even more of a bother to discover you've brought the wrong one up from the basement. So CU tried out two adjustable nut-drivers, each with a capacity ranging from ¼ inch to 7/16 inch—a range that covers the more commonly used sizes.

The *Vaco No. SA-711 Self-Adjusting Nut Driver* (Vaco Prods. Co., Chicago), $3.85, has four nesting sockets—¼, 5/16, ⅜ and 7/16 inch. The three smaller sockets are spring-loaded, so that they are pushed up and out of the way by any fitting that is larger. A ⅜-inch nut, for example, would push up the ¼-inch and 5/16-inch sockets while the ⅜-inch socket was fitting over the nut. Those four sizes are common, certainly, but by no means universal within the range. The driver won't properly fit nuts that are slightly larger or smaller.

The *Stanley 66-525 Hex-A-Matic* (Stanley Tools Div., Stanley Works Inc., New Britain, Conn.), $5.49, has the same ¼-to-7/16-inch range. But it grips the nut or hex-head with six fingers, which tighten when you push the driver down over the nut. It is therefore continuously adjustable and can grip anything within its size limits.

We judged both tools more versatile than single-sized nut-drivers. But we uncovered drawbacks in each. Because the business ends of both tools are relatively large, they can't always be used with a recessed screw-head or in tight quarters. The *Hex-A-Matic* can slip if you don't bear down on it hard enough. The *Vaco* has a slingshot effect—it can expel a fitting from its spring-loaded sockets, thereby committing you to an unscheduled treasure hunt.

And each had an additional advantage. The *Hex-A-Matic* can start a nut or screw that's awkward to insert with your fingers; the *Vaco* can't. The *Vaco* can take an acorn nut; the *Hex-A-Matic* can't.

In brief, some home craftsmen may be pleased with either of these—but more as a convenient addition to a set than as a substitute for it.

FOR MAY . . . USE YOUR BUYING GUIDE

▪ This may be the year you decide you just aren't going to carry tired, old luggage on another vacation trip. If so, look up luggage in your Buying Guide Issue—page 253 for molded luggage and page 256 for garment-bag luggage. Those reports will tell you the pros and cons of both types, and the features you should check before you buy. Among nationally sold brands, we've rated 17 models of molded luggage and 21 of the garment-bag variety.

▪ One seldom meets a boat owner who doesn't have his mind on one boat accessory or another that he is interested in buying. If the current item in your buying sequence is a marine compass or marine speedometer, check out the entries in your Buying Guide Issue (pages 383 and 387, respectively). Along with Ratings of 27 compasses and 11 speedometers, you'll find information about features, installation and use.

▪ Summertime, and the living is easier with a room air-conditioner. Starting on page 137 of your Buying Guide Issue, CU rates 19 tested models and gives a table of specifications and performance for each, plus a detailed form for figuring how much cooling power your room should need. Finally, before you buy, consider the Frequency-of-Repair records of the major air-conditioner manufacturers, based on information from some 51,000 CONSUMER REPORTS readers; those records are in the report beginning on page 253 of this issue.

▪ The seasonal job of yard policing is getting started again in most parts of the country. If you have a hedge that needs to be barbered, and if the memory of last summer's sore hands and sore arm muscles is still with you, you may be thinking of investing in an electric hedge trimmer. You'll find buying tips, maintenance advice and safety precautions on page 202 of your Buying Guide Issue, together with a capsule section on various types of hedge plants and how to trim for best appearance.

Follow-up

HEATHKIT'S COLOR TV. Soon after CU reported that the *Heathkit AR-15* was the best stereo receiver we had ever tested (CONSUMER REPORTS, January 1968) several readers asked why we hadn't yet tested one of the color-TV kits made by the same company. If Heathkit makes the best receiver we have tested, mightn't they also make the best color-TV set? It's possible. But unlike the *AR-15* receiver, Heathkit's color-TV sets are available only in kit form—and Heathkit's own instructions illustrate why we cannot encourage readers to assemble this kit:

"CAUTION—Extreme care must be exercised when handling the picture tube, due to its high vacuum and large glass surface area. DO NOT strike, scratch, or subject picture tube to more than moderate pressure at any time. *Never* lift the picture tube by its neck. A fracture of the glass could result in an implosion of considerable violence capable of causing personal injury.

"IMPORTANT: Do not set the picture tube down so any part of its weight rests on the neck of the tube. Place a soft cloth over any surface on which the picture tube will be placed; then place the tube face down on the cloth.

"CAUTION: When handling the picture tube, be careful not to touch the 2nd anode socket as you may get a dangerous electrical shock from the socket."

In short, assembling the TV kit presents the consumer with hazards that, in CU's judgment, very few would want to risk. We wish it were available fully assembled, or in a form that eliminated the excessive hazards of handling the picture tube. Certainly, CU has more than a passing interest in Heathkit's claim that its sets' built-in equipment for do-it-yourself color adjustments could save the consumer a significant sum in service charges. Perhaps we will learn something about the validity of that claim when we analyze the results of CU's 1968 Annual Questionnaire, which includes questions on repairs of color-TV sets.

AUTOMATIC WASHING MACHINES

THE 17 RATED MODELS CAN HANDLE ALMOST ANYTHING, BUT NOT AS MUCH OF IT AS SOME CLAIM

You can buy an automatic washing machine for less than $210 to $250, the range of average prices for most middle-of-the-line machines CU tested for this report. You can also spend a good deal more.

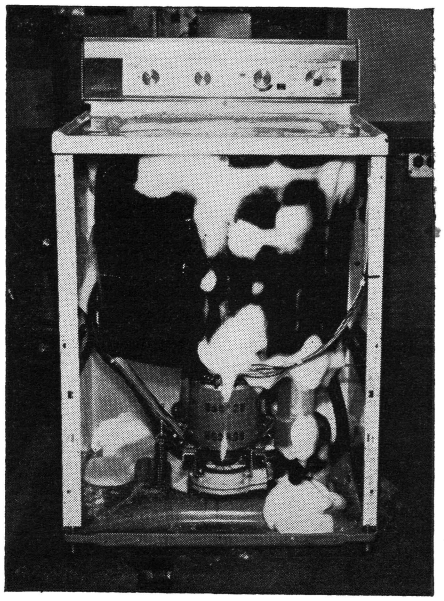
But a single-speed economy machine is highly unlikely to provide the best wash climate for synthetics, wash-and-wear, durable-press and other modern washables. Fancy models, on the other hand, may offer no more—compared with medium-priced washers—than greater sophistication in the controls.

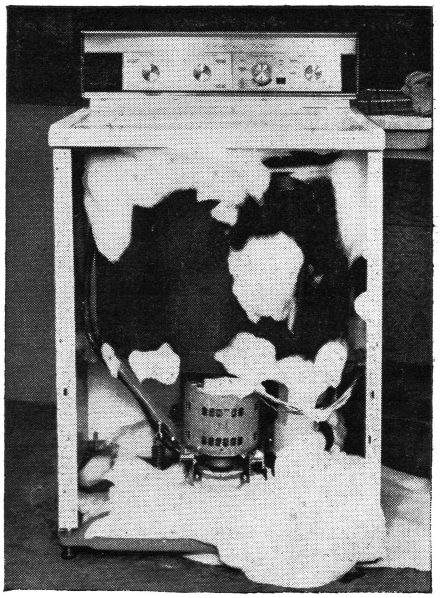
True, for the $400 a deluxe model can cost, you may get the convenience of choosing an entire washing regime—speeds, water temperatures, spin and so on—at the push of a single button. But those more elaborate controls may actually be less flexible than the ones on a less expensive machine.

There is, we think, a certain minimum of features a washing machine should have to cope with most of today's fabrics: at least two speed combinations (normal and slow agitation and spin), some variety in wash and rinse temperature combinations, more than one fill level, a soak or prewash provision and either a fabric-softener dispenser or a bleach dispenser. We had those features in mind when we chose our 17 test models; as it happens, most fall into an intermediate price class.

Advertising for five of the machines assures you they can handle up to 12, 14 or 15 pounds of dry clothes. *GE, Wizard, Norge, Westinghouse, Hotpoint* and *Easy* claim 16 pounds; *Sears* and *Wards* claim 18. Their instructions, on the other hand, take pains to warn against stuffing or overloading the tubs—good advice, as CU confirmed, since none could take our 12-pound mixed load without our having to overstuff the tub. Clearly enough, manufacturers do tend to overstate the capacity of their machines. But even if they didn't, bulk is a more significant indicator than weight. Possibly with that in mind, *Maytag, Whirlpool, Hoover* and *Speed Queen* wisely make no poundage claims. If your family is large, note that the *Hamilton, Wards, Wizard* and *Norge* can handle somewhat larger loads than the others can. The *Frigidaire* and *Kelvinator* have a somewhat smaller capacity than most.

The 1968 *Westinghouse* is the first agitator model with a built-in scale that CU has tested. The platform is the opened lid, and it will weigh your loads reasonably accurately if you center them. (It can only take four pounds, however, so you'd probably have to weigh most loads in more than one batch.) You then set the water-level control to correspond to the load's weight. But since bulk is more operative than weight in determining the proper size of a load, the feature would seem of only minor usefulness. It may help a new owner save a few gallons of wash water. But after she got used to the machine, she could probably





Last year CU published the photo of the 1967 Hamilton, at left. It showed the machine oversudsing—a potentially dangerous deficiency, since suds could run onto the unshielded motor and set up a shock hazard. What has been done about it? The photo at right shows the Hamilton bought and tested a year later. It, too, oversudsed, and, on average, to about the same degree. Grounding this machine is thus an especially important precaution

This year's last-year's models

Blurbs for washing machines make refreshingly sparing use of the word "new" these days. And such restraint matches the facts. In recent years washing machines, and some other products, have had annual changes that involved little more than a face-lift that doesn't affect basic performance. Indeed, a few manufacturers have abandoned the annual model change altogether.

Mindful of that situation, CU last year embarked on a new testing approach. We determined from manufacturers' specification sheets and key performance tests that many 1967 washers were close kin to models we had tested the year before. So we didn't duplicate tests on the aspects of any machine that were essentially unchanged from those of the model we had previously tested, and we could therefore concentrate on any differences between the older and newer versions. That procedure allowed us to report to readers several months earlier in the model year than had been possible in the past.

The situation is little changed this year. Once again, most of the 1968 models we selected for test are none-too-heavily disguised versions of the ones we reported on last year. And once again, therefore, we used an abbreviated test approach. This report, then, is a composite of current data and results from recent washer projects that, we believe, remain valid.

However, not every machine we tested was necessarily a cookie-cutter replica of last year's model. Aside from nonfunctional changes in styling, trim, construction or layout of controls, a few alterations were material and, in some instances, changed a brand's standing in the Ratings. *Westinghouse*, for example, has made a host of small mechanical changes. While most of them didn't affect its performance, the current *Westinghouse* does have a spin period two minutes shorter than that of last year's model; accordingly, its ability to extract water slipped to somewhat below average. The *Frigidaire*, on the other hand, now has a third, very fast spin speed that made it the star performer in water extraction.

Easy, to cite another example, has eliminated the shock hazard that replacing its backsplash lamp posed, and so is fully Acceptable this year; and it (and the similar *Hotpoint*) now include a buzzer that warns when spin is interrupted. *Speed Queen* has added a lid safety switch—an important safeguard—and has improved its tub suspension somewhat. Since we didn't rate the *Blackstone* and *Hoover* last year, we tested them fully this year.

When we have the relevant information, it's our custom in major-appliance stories to include a report on our readers' repair experience as some indication of each make's potential durability. However, some machines have been redesigned since we last polled readers in 1965, and others show an accumulation of minor changes that make it impossible to predict a brand's reliability with any degree of assurance. Frequency-of-Repair comments in the Ratings are therefore limited to brand lines that have changed relatively little since 1965, and should be considered only a rough guide. CU's annual survey for 1968 will update washing-machine repair data.

set the water-level control without using the scale at all.

To assess each machine's washing talents, we compared data on 5-, 8- and 11-pound loads washed in 140° F water and rinsed in warm water. (The *Hamilton* couldn't be preset for that combination, so we used a cold rinse.) Each machine was set for its regular cycle and for its maximum fill level, wash time and agitation and spin speeds. None of the tested machines washed less than satisfactorily. But 11 of them, including the check-rated *Maytag*, did better than the other six.

All of them washed our eight-pound loads somewhat better than the 11-pound ones; most handled the five-pound loads better as well (but not necessarily better than they did the eight-pound loads). The moral: You may or may not get a washing advantage by underloading, but you're very likely to lose cleaning power if you overload.

The *GE* offers a special device for small loads—a plastic tub that sits atop the big tub's agitator. This handy "Mini-Basket" did a good job with small loads (about two pounds or less) of socks and such. And it used less detergent and considerably less water than did the rest at their lowest automatic fill setting on the regular cycle.

Lint remains a problem in machine washing. All the washers left some lint on clothes, though 10 left relatively little. (The others are noted in the Ratings as moderate or relatively heavy in linting.) *Frigidaire* lacks a lint filter and was a notable offender, as were *Wizard*, *Hamilton* and *Wards*—despite their filters. Filterless *Speed Queen* handled the problem at least as well as did six machines that have a filter. The *Sears* and *Whirlpool* filters are self-cleaning; the separate filters on most of the others should be cleaned out after every wash. In some machines (*Maytag*, *Hotpoint*, *Easy*, *Philco* and *Kelvinator*) the water level and agitation speed determine the amount of water that circulates through the filter. With those machines you may find you get less linting on small loads with a high water level than you do with a low one.

In general, though, your best defense against lint—if a partial one—is to wash lint givers separately from lint attractors.

If you live near a beach or on a farm, or have children fond of sandbox play, check the Ratings for a machine that got rid of sand well. A number of the washers left goodly quantities of sand in clothes—and some even in the tub, waiting to be deposited on the next wash.

Most washers didn't differ a great deal in water extraction. The *Hamilton* and *Westinghouse*, although adequate, left our loads about 10 per cent damper than most of the others did. Wash from those machines may therefore take a bit longer to dry, and so push up your dryer's running costs somewhat. *Frigidaire*, on the other hand, this year features three spin speeds, the highest nearly twice as fast as the high speed of many other models; at that speed it removed the most water of any machine tested. Spinning clothes that fast, however, increases their tendency to crease. So durable-press items are programed to spin at the

Frigidaire's intermediate setting. But since the intermediate setting is about as fast as the top speed on most of the rest, you may want to use the slow spin on your durable-press garments.

Tangling of clothes is at least irksome and may actually strain fabrics. The *Kelvinator* tangled eight-pound or heavier loads quite severely. It also shared with a few other models a tendency to oversuds with high-sudsing detergents —a particular problem with the *Hamilton,* whose motor is unshielded. The suds are apt to do this machine's motor windings no good. And they could establish an electrical path between motor and cabinet, a shock hazard. So, although the cabinet of any washer should be properly grounded, it's especially important with the *Hamilton.* However, you can solve oversudsing problems by switching to a low-sudsing detergent.

A number of models come with liquid-bleach dispensers; those on the *Sears,* the *Hotpoint* and the *Easy* release the bleach late in the wash period. There's evidence to suggest that such an arrangement gives the brighteners in many detergents more time to do a thorough job.

While they're not likely to damage your wash, the serrations on the agitator retaining-cap of the *Blackstone* were judged uncomfortably sharp (see photo, page 235). The cap on the *Hoover,* otherwise a similar machine, doesn't pose this small hazard, but it does put you to the trouble of using a Phillips screwdriver (not a standard item in many household toolboxes) to remove it when you want to clean under the agitator. (Most require no tool; the *Wards* agitator cap takes a regular screwdriver—or a coin.) The agitator area *should* be cleaned occasionally, particularly in hard-water areas where mineral deposits may form.

Programing your washer

Most of the washers have separate controls for water temperature and speed and a timer for setting the wash time or wash cycle. You thus have considerable flexibility in matching your washing program to the load. In the others, the timer setting or a control coded to the fabrics being washed determines, at least in part, the temperature, speed and wash time. Such machines are easier to set, but they impose some limitation on the conditions you can get automatically.

And you're likely to want to vary your washing regime now and then. The appropriate program for colorfast cottons and linens, for example, is hot wash, warm or cold rinse, and normal wash and spin speeds. Noncolorfast cottons, on the other hand, generally need a warm wash. Cold washing will reduce color-bleeding even further and will reduce shrinking of woolens. It may also be perfectly satisfactory for lightly soiled fabrics that don't bleed or shrink—a point to remember if you want to conserve hot water. Rayons and acetates are weaker when wet, and so need brief, gentle agitation.

Besides their regular cycle, most of the washers offer one or more extra cycles—for instance, a separate prewash or soak cycle, or both, to help loosen heavy soil or stains, or a cycle for small loads or for fabrics that need gentle laundering. All but three machines have a cycle or settings for durable-press, usually labeled as "permanent press" or "wash-and-wear". Special setting or not, however, all the machines can provide conditions we consider suitable for such fabrics: an inflow of cold water at the end of the wash cycle or during extraction and a cold rinse (to keep wrinkles from setting), and a slow spin.

Where laundering temperatures for durable-press items aren't preprogramed, you'll do well to be guided by the sturdiness of the garments or fabrics to be washed. For robust or heavily soiled garments, the instructions usually recommend a hot or warm wash with normal agitation. Most durable-press *treatments* are hardy enough to stand those severe conditions, CU's textile experts have found, but a garment's fabric or seams may not. So use, wherever possible, the settings the instructions recommend for delicate or lightly soiled items: warm or cold wash with gentle agitation. Really grubby areas can be softened up by a prewash or soak.

Bear in mind, however, that your drying method will affect durable-press appearance far more than your washer will. Line-dried garments tend to need touch-ups with an iron. But with a little care, durable-press clothes can emerge from a clothes dryer looking almost bandbox-fresh. In setting drying temperatures, take into account any recommendations that came with the items, as well as the dryer instructions. And be on hand to remove the load as soon as the dryer stops.

Two kinds of protective switch

The obvious rule for safety in the laundry room is to keep your hands out of any washer that's on, particularly when the tub is spinning. The *Westinghouse* lid locks shut automatically during the spin. The rest have a switch that shuts off the machine if the lid is opened during spin or, better yet, any time the lid is opened during a cycle. *Sears, Hotpoint* and *Easy* also have a warning buzzer that sounds whenever the spin is interrupted.

Most of the tubs stopped rather fast, but even the quickest turned several times before stopping. And the tubs of some kept spinning for an inconvenient and perhaps hazardous minute or so. Don't reach in to try to stop a machine yourself.

Six washers contain another kind of switch—one to safeguard themselves if an unbalanced load causes excessive vibration. When these unbalance switches turn the machine off, they have to be reset by hand (a reminder to redistribute your load for better balance). When we tried the models that have one, on an intentionally unbalanced load, the *Maytag,* the *Blackstone* and the *Hoover* came through without much vibration, anyway, so their switches never actuated. The *Sears,* the *Hotpoint* and the *Easy,* by contrast, vibrated more, and their switches cut out after only slight-to-moderate vibration.

This year's *Frigidaire* has a different system—rather than turning the washer off, the unbalance switch shifts it to a lower speed. If the load's balance improves as water is extracted, the *Frigidaire* will resume the higher speed. But if the load stays much out of balance, the machine may

go through its entire spin cycle at reduced speed. At unloading time, the wash may then be undesirably damp.

Ideally, a washer shouldn't vibrate a lot, even with an unbalanced load, and so shouldn't need an unbalance switch. Of the nine models lacking them, only the *Whirlpool*, the *Norge*, the *Wizard* and the *Philco* shook unduly when the wash was unevenly distributed. The *Speed Queen* didn't shake, but its inner tub dragged against the outer one and didn't come up to full speed.

The water they used

Homeowners with a marginal water supply, high water rate or overloaded sewage system can note the water each machine used in the table on page 238. While the test models used between 30 and 57 gallons, all of them provided for less water with small loads. The most convenient washers in that respect can be set at partial fill for both wash and rinse before the machine is started. On the *Frigidaire* and *Kelvinator*, however, partial-fill settings are tied to a shorter wash cycle that may not be appropriate for really dirty clothes.

Several machines that used water moderately at maximum fill in their regular cycle swilled water down in their wash-and-wear cycle. The *Whirlpool* guzzled about 19 more gallons at this setting than in its regular cycle; the *Blackstone*, *Hoover* and *Kelvinator*, 10.

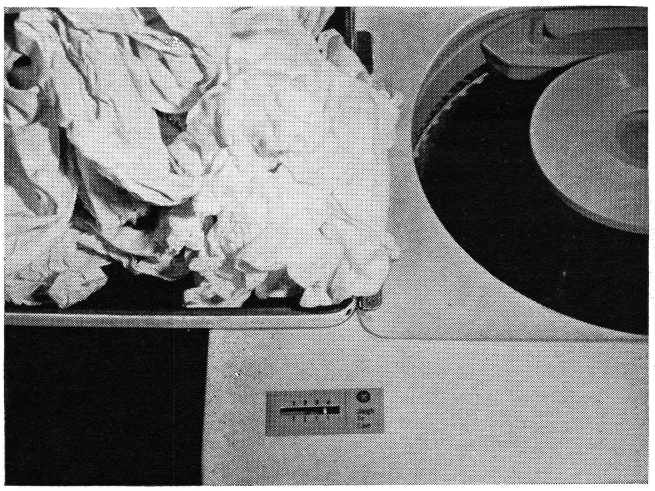
To some people, the idea of a "suds saver" is attractive; it cuts down on the consumption of hot water and detergent by letting you use wash water for a second load of clothes. CU would advise you to pass up that optional feature: Cooled-down dirty water won't do the best job of washing your clothes. If you want to save on hot water, use a cold rinse; depending on your model, it will save you from one-third to one-half the hot water that the regular cycle would use. Of the models we tested, only the *Maytag* and *Kelvinator* won't let you combine a cold rinse with a hot wash automatically; you must go back to the machine sometime after the wash fill and before the beginning of the rinse cycle and change the temperature setting.

Finally, the kind of fill a machine uses can be important to some householders. If you have very low or fluctuating water pressure, steer clear of timed-fill machines; in those, the water runs into the tub for a fixed number of minutes. You'll be happier with a metered-fill washer, in which the fill continues until the water reaches the level you have selected for a particular wash.

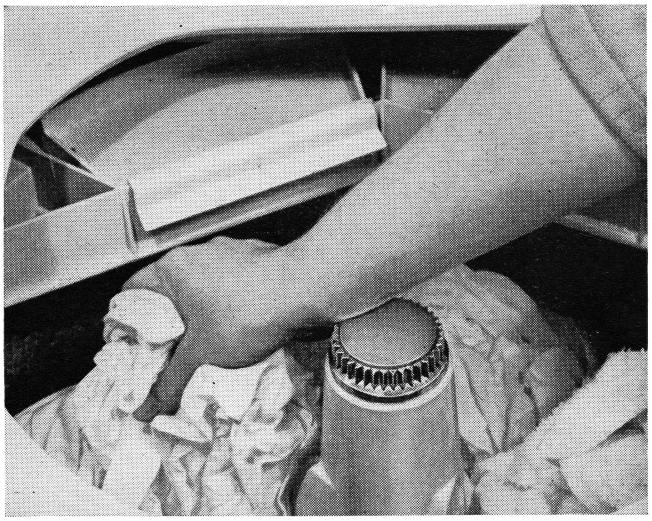
When your washer comes home

Your washer will need a location with handy sources of cold and hot (at least 140° F) water, shut-off valves and a drain. It will also need an a-c power supply that's not being used by any other appliance that draws moderate or high current. The floor should be sturdy and level.

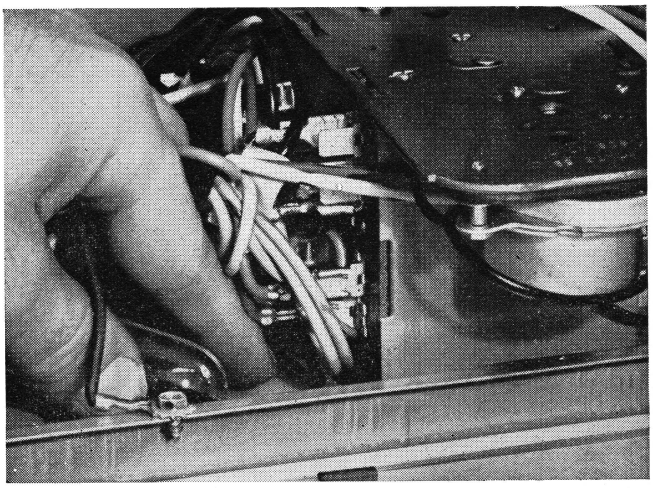
Make sure your machine is properly grounded when it's put in. Every washer comes with a three-prong plug and a three-wire power cord in which one wire serves as a grounding connection. If you don't have a three-prong wall outlet, you can use an adapter—but it, in turn, must be properly grounded. (Advice on how to ground an adapter, and additional general information on electrical safety,



The lid of the Westinghouse LAJ-550 doubles as the platform of a scale—but it weighs loads only up to four pounds



The uncomfortably sharp serrations on the Blackstone's agitator cap could annoy you while you were unloading



Unplug the Norge before replacing a panel bulb. This bulb is near terminals that are "live" even with the washer off

starts on page 156 of your 1968 Buying Guide Issue.)

Note that we rated the *Norge* Conditionally Acceptable because, even with the machine turned off, you risk touching exposed live terminals when you replace the backsplash lamp. You should therefore unplug the machine before you replace the lamp. The same advice also goes for six of the seven others that have a backsplash lamp, even though their hazard is much less, in our opinion, than that of the *Norge* —the live terminals being much farther away from the lamps. The *GE*'s lamp is free of this hazard, as is the tub light on the *Wards*.

Some models, as the table indicates, can be installed flush to the wall; others may need up to several inches of clearance for water and drain hoses. You also may have to allow up to 14¼ inches of additional clearance for those models whose lids open to the side. If you want your machine in the kitchen or other well-trafficked spot, you may want to check the Ratings for one that kept its hums, thumps and internal rumblings under reasonable control.

RATINGS OF AUTOMATIC WASHING MACHINES

Listed in order of estimated overall quality based on laboratory tests, engineering evaluations and judgments of convenience. Within groups, closely ranked models differed little in overall quality. For dimensions, water consumption and other data see the table on page 238. Except for mail-order brands, there are usually no manufacturers' list prices, but see price survey on page 239.

All models are top-loaders that operate on a-c only; come with a 3-wire grounding-type cord; and have a porcelain-enamel top, tub and lid. Except as noted, all have a cabinet finished in baked enamel, a metered fill, a timer that can be preset for less-than-maximum wash time, no backsplash lamp and a lid safety switch that works only during spin. Choices of water temperature, and of speed combinations in addition to normal agitation with normal spin and slow agitation with slow spin, are noted in the Ratings. Unless otherwise indicated, all did well in lint and sand disposal and were average in water extraction, noise and other features and characteristics. Machines are usually available in color as well as in white—check with your dealer. Frequency-of-Repair record is omitted where data was insufficient to establish one or where it might no longer be applicable. Except as noted, guarantee covers entire unit for 1 yr., and transmission for 5 yr.

ACCEPTABLE

MAYTAG A-606 (Maytag Co., Newton, Iowa). Washing ability, good. Moderate linting. Relatively good protection against overflow of small items into outer tub. Has separate soak cycle. Hot wash with warm rinse; warm or cold wash with cold rinse. 3 presettable fill levels. Has pilot light. Has lint filter and fabric-softener dispenser. Has unbalance switch, but washer was found less likely to become unbalanced in spin than most other machines. Has safety switch that stops moving parts whenever lid is lifted. Relatively quiet. Cleaning of embossed backsplash trim judged somewhat inconvenient. Service access from front for many components. 2-yr. guarantee on entire unit; 5-yr. guarantee on transmission and against rust on cabinet. Dealer is responsible for labor under guarantee for 1st yr. Model *A-406* (not tested) appears similar, but speeds are limited to normal agitation and spin. Frequency-of-Repair record, best of all washing machine brands surveyed.

¶ *The following models were of relatively high overall quality, with washing ability on a par with that of the preceding model. But each had deficiencies or limitations that may be important to some users.*

GENERAL ELECTRIC WA-850D (General Electric Co., Louisville, Ky.). Low-sudsing detergents may be needed for some loads to prevent oversudsing. Has short cycle for wash-and-wear, durable-press and delicate fabrics. Has separate "Mini-Basket" for washing very small loads, a desirable feature (see story). Hot, warm or cold wash with warm or cold rinse. Has 3 agitation speeds; settings include normal or medium agitation with slow spin and slow or medium agitation with normal spin. Continuous range of presettable fill levels from low to high and special setting for Mini-Basket. Combination lint filter and detergent dispenser must be removed to load and unload clothes—a minor inconvenience. Has liquid-bleach dispenser and fabric-softener dispenser. No unbalance switch; but only slight noise and vibration if load became unbalanced during spin. Splashed some water out when lid was opened during fills. Has full-width backsplash lamp, judged easy to replace. Manufacturer responsible for labor costs during 1st yr. of guarantee if work is done by factory-authorized agency. Model *WA-750D* (not tested) appears similar, but has only normal-speed wash and spin and low-speed wash and spin and lacks fabric-softener dispenser.

HAMILTON WA757 (Hamilton Mfg. Co., Two Rivers, Wis.). Low-sudsing detergents may be needed; with some loads, use of high-sudsing detergents may result in overflow of sudsy fluid onto wiring and motor's open top and wiring terminals, creating possibility of serious shock hazard if machine is not properly grounded. Judged able to take about ¼ larger load than most other machines tested. Relatively heavy linting. Water extraction, somewhat below average. Has short cycle for wash-and-wear, durable-press and delicate fabrics; this cycle used about 5 extra gal. of cold water when cold rinse was used. Hot, warm or cold wash with cold rinse; warm wash with warm rinse. Settings include normal agitation with slow spin and slow agitation with normal spin. Continuous range of presettable fill levels from low to high. Timer lacks markings for convenient setting of less than maximum wash time. Has lint filter and fabric-softener dispenser; removal of both makes loading and unloading more convenient (if not removed, insecurely held lint filter is likely to fall into tub if clothes brush against it while loading or unloading). Has liquid-bleach dispenser. No unbalance switch; but only slight-to-moderate vibration if load became unbalanced during spin. Service access from front for many components. 2-yr. guarantee on entire unit; 5-yr. guarantee on transmission. Dealer is responsible for labor under guarantee for 1st yr.

WIZARD Cat. No. 2734 (Western Auto Supply Co., Kansas City, Mo.), $219.88. Judged able to take about ⅓ larger load than most other machines tested. Relatively heavy linting. Relatively good protection

against overflow of small items into outer tub (but if tub is overcrowded, projecting points of many screws just above and slightly beyond tub sides can snag clothing thrown over sides during spin). Has short cycle for wash-and-wear, durable-press and delicate fabrics; also has separate soak cycle. Hot, warm or cold wash with warm or cold rinse. Settings include normal agitation with slow spin and slow agitation with normal spin. Continuous range of presettable fill levels from low to high. Combination lint filter and fabric-softener dispenser must be removed to load and unload clothes; an inconvenience. No unbalance switch; some noise and rather heavy vibration if load became unbalanced during spin. Service access from front for many components. Dealer is responsible for labor under guarantee for 1st yr.

SEARS KENMORE Cat. No. 81470 (Sears, Roebuck), $214.95 plus shipping. Has special cycle for durable-press, a shorter cycle for delicate fabrics, and prewash cycle. Somewhat less versatile than many other machines. Hot or warm wash with warm rinse on normal cycle, hot or warm wash with cold rinse on durable-press cycle, but in both instances hot wash can only be preset with maximum or near maximum wash times; warm wash with shorter wash times only. Short cycle with warm wash and warm rinse; prewash with warm water. Separate override control permits user to substitute cold wash with cold rinse, or cold rinse only, for any of these programed temperatures. Slow agitation and spin speeds available only with shorter cycle; wash-and-wear cycle has normal agitation with slow spin. Continuous range of presettable fill levels from low to high. Has self-cleaning lint filter and liquid bleach dispenser (timed to dispense bleach relatively late in the wash period). Buzzer sounds when unbalance switch operates. Projection over rear of tub made loading and unloading somewhat inconvenient. Stop prevents side-hinged lid from opening to full horizontal for use as loading shelf. Controls recessed in well which was judged relatively inconvenient to clean. 2-yr. guarantee on entire unit; 5-yr. guarantee on transmission. Labor is covered for 1st yr. *Cat. No. 81475* (not tested), $224.95 plus shipping, appears similar, but entire cabinet is finished in porcelain enamel. Frequency-of-Repair record, average.

WHIRLPOOL LSA-780 (Whirlpool Corp., Benton Harbor, Mich.). Has special cycle for wash-and-wear and durable-press, and a short cycle for delicate fabrics; wash-and-wear cycle consumed 44 gal. of water, of which 35 were cold when warm wash and cold rinse were selected. For heavy soil, both regular and wash-and-wear cycles can be preceded automatically by a short prewash. This "Super Wash" used about 5 extra gal. (total water, 49 gal.) in the wash-and-wear and durable-press cycle and about 8 extra gal. (total water, 44 gal.) in the regular cycle. "Super Wash" adds about 12 min. to either regular cycle or wash-and-wear cycle, and requires use of additional detergent. Hot or warm wash with warm or cold rinse; cold wash with cold rinse. Agitation and spin speed automatically controlled by timer so that user cannot vary established combinations. Provides normal agitation with slow spin on wash-and-wear and durable-press cycle, except that agitation is slow in last 4 min. of wash period of this cycle; provides slow agitation with slow spin on short cycle. 3 presettable fill levels. Has self-cleaning lint filter, fabric-softener dispenser and liquid-bleach dispenser. No unbalance switch; some noise and vibration if load became unbalanced during spin. Projection over rear of tub made loading and unloading somewhat inconvenient. Lid somewhat unstable in open position. Has illuminated timer. 2-yr. guarantee on entire unit; 5-yr. guarantee on transmission. Dealer is responsible for labor under guarantee for 1st yr. Model *LSA-670* (not tested) appears similar but lacks "Super Wash" feature on wash-and-wear cycle, lacks fabric-softener and bleach dispensers and has only 2 presettable fill levels. Frequency-of-Repair record, average.

WARDS SIGNATURE Cat. No. 6528 (Montgomery Ward), $219.95 plus shipping. Low-sudsing detergents may be needed for some loads to prevent oversudsing. Judged able to take about ⅓ larger load than most other machines tested. Relatively heavy linting. Relatively good protection against overflow of small items into outer tub. Has special prewash cycle. Hot wash with warm or cold rinse; warm or cold wash with cold rinse. Settings include normal agitation with slow spin and slow agitation with normal spin. Continuous range of presettable fill levels from low to high. Lint filter projects over back of tub and was somewhat tricky to remove, but removal made loading and unloading more convenient. Has liquid-bleach dispenser. No unbalance switch; slight-to-moderate noise and vibration if load became unbalanced during spin. One of noisiest machines tested. Has tub lamp with separate switch. Service access from front for many components. 2-yr. guarantee on entire unit; 5-yr. guarantee on transmission. Labor is covered for 1st yr.

NORGE AWJ-1630 (Norge Div., Borg-Warner Corp., Chicago). Low-sudsing detergents may be needed for some loads to prevent oversudsing. Judged able to take about ⅓ larger load than most other machines tested. Relatively good protection against overflow of small items into outer tub. Has short cycle that can be used for wash-and-wear, durable-press, and delicate fabrics. Hot wash with warm or cold rinse; warm or cold wash with cold rinse. Continuous range of presettable fill levels from low to high. Lint filter projects over back of tub and was somewhat tricky to remove, but removal made loading and unloading more convenient. Has liquid-bleach dispenser. No unbalance switch; some noise and vibration if load became unbalanced during spin. One of noisiest machines tested. Service access from front for many components. 2-yr. guarantee on entire unit; 5-yr. guarantee on transmission. Dealer is responsible for labor under guarantee for 1st yr. **Acceptable only on condition that user affixes prominent, permanent label to back of machine as reminder to unplug the unit before attempting replacement of lamp that illuminates timer** (see story). Model *AWJ-1620* (not tested) appears similar but lacks bleach dispenser, timer lamp; water-temperature controls differ but same temperature options are available. Model *AWJ-1610* (not tested), in addition, lacks porcelain top and is limited to normal agitation and spin.

BLACKSTONE BA620 (Blackstone Corp., Jamestown, N.Y.). Only fair in sand disposal; traces of sand deposited on clothes in subsequent loads. Has short cycle for wash-and-wear, durable-press and delicate fabrics. Hot wash with warm or cold rinse; warm or cold wash with cold rinse. 3 presettable fill levels. Has lint filter and liquid-bleach dispenser. Supports over rear of tub made loading and unloading somewhat inconvenient. Has unbalance switch but washer was found less likely to become unbalanced in spin than most other machines. Has safety switch that stops moving parts whenever lid is lifted. Agitator retaining cap has annoyingly sharp serrations; but judged not likely to snag clothes. Service access from front for many components. No labor coverage under guarantee. Model *BA520* (not tested) appears similar, but lacks durable-press cycle and has only 1 fill level instead of 3.

HOOVER 0710 (The Hoover Co., North Canton, Ohio). Essentially similar to *Blackstone BA620*, preceding, except agitator retaining cap does not have sharp serrations; Phillips screwdriver necessary to remove agitator (an inconvenience); and dealer is responsible for labor under guarantee for 1st yr.

WESTINGHOUSE LAJ-550 (Westinghouse Electric Corp., Mansfield, Ohio). Moderate linting. Only fair in sand disposal; traces of sand deposited on clothes in subsequent loads. Water extraction, somewhat below average. Relatively good protection against overflow of small items into outer tub. Has separate cycles for prewash and soak; soak cycle includes nonagitated soak period that user must terminate by advancing timer to spin. Hot or warm wash with warm or cold rinse; cold wash with cold rinse. Continuous range of presettable fill levels from low to high. Has lint filter and fabric-softener dispenser; removal of latter improves convenience of loading and unloading. No unbalance switch; but only slight vibration if load became unbalanced during spin. Lid locks automatically during spin, remains locked for 1 min. after motor is de-energized to let tub come to a stop—a good safety feature. Lid can be opened before end of cycle by turning timer to "off." But this negates some of the safety feature as tub takes about 15 sec. to stop. Lid has built-in scale for weighing load (opened lid serves as platform); scale calibrated up to 4 lb. (see story). Water connections at back are not identified "hot" and

RATINGS OF WASHING MACHINES
continued

"cold"—a possible inconvenience. Dealer is responsible for labor under guarantee for 1st yr.

¶ *The following machines had deficiencies judged more serious or more numerous than those in preceding models. Washing ability, while satisfactory, was somewhat inferior to that of the higher-ranked washers.*

PHILCO W2G4 (Philco Corp., Philadelphia). Not as well protected against overflow of small items into outer tub as most other models tested. Somewhat less versatile than many other machines; normal cycle with hot, warm or cold wash is limited to a warm rinse, and shorter cycle for wash-and-wear, durable-press and delicate fabrics with hot, warm or cold wash is limited to a cold rinse. Continuous range of presettable fill levels from low to high. Has combination lint filter and detergent and fabric-softener dispenser. No unbalance switch; some noise and moderate-to-heavy vibration if load became unbalanced during spin. Relatively quiet. Smooth timer knob judged slippery to grasp with wet hand. Stop prevents side-hinged lid from opening to full horizontal for use as loading shelf. Has full-width backsplash lamp with separate switch. Service access from front for some components. 2-yr. guarantee on entire unit, including transmission; no labor coverage. Frequency-of-Repair record, poorer than average.

SPEED QUEEN MA76 (Speed Queen Div., McGraw-Edison Co., Ripon, Wis.). Moderate linting. Poor in sand disposal; sand deposited on clothes in subsequent loads and sand in tub judged difficult to clean out. Has short cycle for wash-and-wear, durable-press and delicate fabrics, and separate soak cycle. Hot, warm or cold wash with warm or cold rinse. Settings include normal agitation with slow spin and slow agitation with normal spin. Timed fill; timer markings help in selection of level of wash fill, but to reduce washing time, user must reset controls when fill is completed. Timer lacks markings for convenient setting of less than full wash time. Has fabric-softener dispenser; removal made loading and unloading more convenient. No unbalance switch; slight-to-moderate noise and vibration if load became unbalanced during spin; tub then dragged and did not attain full speed. At end of spin or if lid was opened during spin, tub took about 1 min. to come to a stop. Controls illuminated by incandescent lamp judged easy to replace. Service access from front for many components. 10-yr. guarantee on transmission. Dealer is responsible for labor under guarantee for 1st yr. Frequency-of-Repair record, average.

HOTPOINT LW890 (Hotpoint Div., General Electric Co., Chicago). Low-sudsing detergents may be needed for some loads to prevent oversudsing. Poor in sand disposal; sand deposited on clothes in subsequent loads and sand in tub judged difficult to clean out. Has separate soak cycle. Hot or warm wash with warm or cold rinse; cold wash with cold rinse. Settings include normal agitation with slow spin and slow agitation with normal spin. Timed fill; in contrast to most timed-fill machines, can be preset to any of 3 wash times. 3 presettable wash and rinse fill periods. Also has button that user can

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AUTOMATIC WASHING MACHINES: SPECIFICATIONS AND PERFORMANCE DATA

	OVERALL DIMENSIONS[A]						HOT WATER USED[B]				
	Height (lid closed)	Height (lid open)	Width	Depth	Lid opens	Open-lid overhang	With cold rinse	With warm rinse	Total water used[B]	Maximum wash time	Total time, regular fabric cycle[C]
✓ **MAYTAG A-606**	43½ in.	50¾ in.	25½ in.	27¼ in.	Back	None	—	29 gal.	39 gal.	14 min.	34 min.
GENERAL ELECTRIC WA-850D	44½	50¾	27	25[D]	Back	None	20 gal.	30	42	19½	44½
HAMILTON WA757	44	54¾	27	27[D]	Left	14¼ in.	21	—	47	12	34½
WIZARD 2734	44¾	54¼	28	27¼[D]	Left[E]	13¾	26	37	56	14	47
SEARS KENMORE 81470	42¾	53	29	26[D]	Left	None	17	30	39	14	31
WHIRLPOOL LSA-780	42½	49¼	29	25¾[D]	Back	None	17	28	36	14[F]	33
WARDS SIGNATURE 6528	45¼	55¼	27	27½[D]	Left[E]	14¼	25	40	57	15	47
NORGE AWJ-1630	45½	55	27	27[D]	Left[E]	14¼	23	37	53	10	38
BLACKSTONE BA620	43¾	52½	26	27	Left[E]	11¼	20	30	47	13½	38
HOOVER 0710	43¾	52½	26	27	Left[E]	11¼	19	28	45	13	37
WESTINGHOUSE LAJ-550	42¼	52¾	27	25[G]	Left	13¼	22	38	49	13	39
PHILCO W2G4	43¾	58¾	26¾	26¼[D]	Right[E]	2	—	26	38	12	32
SPEED QUEEN MA76	43	51¾	25⅝	28	Left	10¾	16	26	32	10	34
HOTPOINT LW890	46	51½	25¾	28	Left	10	15	31	44	15	46
EASY WA444	45½	51¼	25¾	28	Left	10	15	26	45	15	45
FRIGIDAIRE WCDATN	43¾	53¼	27	26½[G]	Left	12½	11	20	30	13	32
KELVINATOR W54B	44¼	52	27	28¾	Back	None	—	28	36	12	32

[A] *To nearest ¼ in.; adjustments of leveling legs can add up to 1½ in. to height figures.*
[B] *Water pressure at 40 lb. per sq. in. with 8-lb. mixed-cotton load and regular fabric cycle using hot wash and largest fill setting; dash indicates rinse option is not available automatically.*
[C] *Using maximum wash time.*
[D] *Cannot be installed flush to wall; may require up to 3 in. more for hose connections.*
[E] *Lid can be reversed to hinge from other side—generally a job for a serviceman.*
[F] *Additional wash/spin cycle can be selected for heavily soiled clothes; see Ratings.*
[G] *Flush installation depends on location of plumbing.*

push to stop fill at a desired level. Lint filter must be removed to load and unload clothes—an inconvenience. Many components of filtering system, built into agitator, may require occasional cleaning; judged inconvenient to disassemble and reassemble. Has liquid-bleach dispenser (timed to dispense bleach relatively late in the wash period) and fabric-softener dispenser. Tub guard has sharp edges; not likely to snag clothes but may cut hands. Has unbalance switch. At end of spin, tub took about 1 min. to come to a stop (true also if lid was opened during spin, but then warning buzzer sounds). Entire cabinet finished in porcelain enamel. Manufacturer responsible for labor costs during 1st yr. of guarantee if work is done by factory-authorized agency. Model *LW880* (not tested) appears similar, but lacks fabric-softener dispenser and water-saver button and has only 2 speed combinations instead of 4. Model *LW860* (not tested) in addition lacks bleach dispenser and is limited to single speed in agitation and spin. Frequency-of-Repair record, slightly poorer than average.

EASY WA444 (Hupp Corp., Gibson Refrigerator Sales Corp., Greenville, Mich.). Essentially similar to *Hotpoint LW890*, preceding, except for minor differences in styling and controls and the following: Has backsplash lamp, with separate switch, that illuminates most controls and 10-yr. guarantee on transmission but no labor coverage.

FRIGIDAIRE WCDATN (Frigidaire Div., General Motors Corp., Dayton, Ohio). Judged able to take about 15% smaller load than most other machines tested. Poor in sand disposal: sand deposited on clothes in subsequent loads. Relatively heavy linting. Has 3 spin speeds; most effective water extraction of any machine tested at highest speed. Settings include intermediate spin with normal agitation, used during durable-press program to minimize creasing (slow spin is used for delicate items). Not as well protected against overflow of small items into outer tub as most other machines tested. Has separate soak cycle. Hot wash with warm or cold rinse; warm or cold wash with cold rinse. Timed fill; but timer can be preset for less-than-maximum wash time. Has small-load setting that uses less water but is shorter than regular cycle, which may not always be desirable. Has detergent dispenser and liquid-bleach dispenser. Has unbalance switch that prevented tub from attaining maximum speed with unbalanced load (see story). Optional fabric-softener dispenser, $4 to $5. Has safety switch that stops moving parts whenever lid is lifted. Guarantee also covers drive motor and water pump for 5 yrs. Manufacturer responsible for labor costs during 1st year of guarantee if work is done by factory-authorized agency.

KELVINATOR W54B (Kelvinator Div., American Motors Corp., Detroit). Low-sudsing detergents may be needed for some loads to prevent oversudsing. Judged able to take about 25% smaller load than most other machines tested. Poor in sand disposal; sand deposited on clothes in subsequent loads. Rather severe tangling of clothes in 8-lb. and larger loads. Hot wash with warm rinse; warm wash with cold rinse, medium (between warm and hot) wash with cold rinse (using about 9 extra gal. of cold water near end of wash period on regular cycle for wash-and-wear and durable-press). Settings include normal agitation with slow spin and slow agitation with normal spin. Timed fill; timer judged relatively inconvenient—cannot be preset for less-than-maximum wash time nor, easily, for less than full fill. And it requires some effort to turn knob past starting points of cycles. Has separate small-load cycle that uses less water but is shorter than regular cycle, which may not always be desirable. Judged relatively inconvenient to load and unload, even after removal of lint filter, because of narrow opening, large agitator, and rubber ring at neck of tub. Has unbalance switch and safety switch that stops moving parts whenever lid is lifted. Despite lid safety switch, splashed some water out when lid was opened during wash or rinse. At end of spin or if lid was opened during spin, tub took about ½ min. to come to a stop. Relatively quiet. Cleaning lint threads from the many agitator holes judged inconvenient. Service access from front for many components. 2-yr. guarantee on entire unit; 5-yr. guarantee on transmission, agitator and inner tub. Dealer is responsible for labor under guarantee for 1st yr. Frequency-of-Repair record, slightly poorer than average.

Washer prices: guess how much

How much is a "medium-price" washing machine likely to cost you? $160? $340? Depending on the brand you choose, and where you shop, you're right either way and with guesses in between, as CU's shoppers found in a survey of 23 big-city areas. Even on the same model, price quotes varied by as much as $99, and differences of $70 to $90 turned up fairly frequently.

True, the price gaps in a single area aren't likely to be so spectacular. We found some evidence of regional "fair-trading" (a courtly euphemism for price-fixing), but a little leg work is still likely to reward the bargain hunter. Get used to the idea, though, that you'll probably pay more for this year's version than you would have paid for last year's machine.

On average, the check-rated *Maytag* is very likely to be the most expensive, trailed (although not closely) by the *Blackstone*. On the other hand, the *Hoover*, which is similar to the *Blackstone*, was among the potentially least-expensive machines. Prices often overlap, however, so check around; any of the better washers could be your personal Best Buy.

As long as your thoughts are on your pocketbook, mentally lay aside at least $10 in case installation charges aren't included in the selling price (a point to check with your dealer). Ask, too, if that charge includes an operational run-through, preferably with a load of clothes in each cycle. And check plumbers' and electricians' charges before deciding to put your machine where water taps and drain and an electrical line have to be installed.

It's also important to pin down the exact terms of your guarantee, particularly with respect to labor. The tested machines were all guaranteed for either one or two years, and most guarantees covered labor charges, but only during the first year. However, in most cases the manufacturer says that it's the dealer who is responsible for providing the labor under guarantee, so better check. Except for *Philco*, the transmission is guaranteed longer than the rest of the machine —usually five years (see Ratings). On some machines, there is an extended guarantee on other parts as well.

	Range	Average
MAYTAG A-606	$249.00-$339.95	$280.72
GENERAL ELECTRIC WA-850D	218.00- 269.95	240.49
HAMILTON WA757	208.00- 279.95	241.64
WIZARD 2734	209.88- 244.95	225.50
SEARS KENMORE 81470	209.88- 240.00	213.78
WHIRLPOOL LSA-780	205.00- 279.95	231.68
WARDS SIGNATURE 6528	209.95- 249.95	233.51
NORGE AWJ-1630	189.00- 269.95	234.54
BLACKSTONE BA620	229.95- 309.95	254.73
HOOVER 0710	159.95- 259.00	211.87
WESTINGHOUSE LAJ-550	213.00- 269.95	237.37
PHILCO W2G4	198.00- 259.95	220.88
SPEED QUEEN MA76	209.95- 290.00	247.21
HOTPOINT LW890	209.90- 299.00	233.31
EASY WA444	199.95- 288.00	250.76
FRIGIDAIRE WCDATN	199.50- 249.00	224.05
KELVINATOR W54B	185.00- 229.95	208.17

SOME PERFORMED QUITE WELL, BUT NONE GAVE A FINISH THAT LASTED A SEASON

AUTO CLEANER-POLISHES

The traditional *Simoniz* job enjoys a time-honored place in American automotive lore. The cars used to come out on a Sunday afternoon to be parked in tree-shaded driveways and lovingly ministered to—caressed, almost. There would be a collection of special cloths to be used in a particular sequence, according to the mystique, and friends would sometimes join in to take over a panel or a section of hood, Tom Sawyer style. When the job was done, all hands would retire to the front porch for a well-earned beer and frequent satisfied glances at their gleaming handiwork. The car was now presumably all set for the season.

Today, the auto manufacturers provide paint finishes that stay brighter longer and with less maintenance than the older paints—finishes designed to be kept up and protected by methods simpler than the old *Simoniz* routine. And a host of one-step cleaner-polishes has come onto the market to help today's owner keep his car looking good.

When we investigated those products, we came up with a couple of surprises. Number one, some produced about as good results as the two-step *Simoniz* treatment, and with much less effort. Further, *no* car polish—*Simoniz*, another

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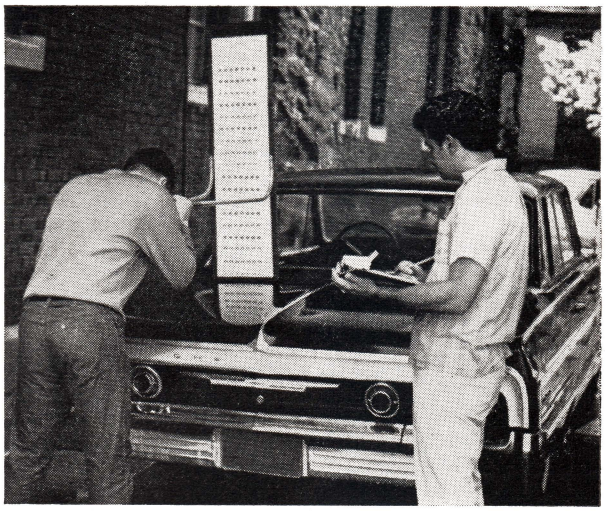

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FOR WHAT IT'S WORTH, the technicians assigned to this cleaner-polish project should now qualify as expert car washers. It took them two months and more than 200 car washes to compile the raw use-test data for this report.

More than 30 CU staffers volunteered their cars for the project. All the major auto makers were represented, and the cars ranged in age from one to seven years and, predictably, varied in condition of body finish. (We took all such variables into account in the statistical design of the project.) To put all the cars at the same starting line, we subjected each one to a rigorous washing routine (1) that you'd be unlikely even to approximate unless your car had been through a tar bath. First, we flushed off the test surfaces (hood, roof, trunk deck) with clear, cool water from a hose. Next, we brush-scrubbed with a detergent-and-water solution, followed by another hose rinsing. After drying the surfaces with clean toweling, we went over them with naphtha-soaked toweling and dried them again with more clean toweling. Then, another detergent-and-water/rinse/towel cycle. After all that we felt sure there would be no significant residue from any previous wax job, a judgment we confirmed by doing the water-drop test described in the accompanying report.

To find out what the products could do, we had to know what we had to start with. We determined the glossiness of the unpolished surface with a type of extinction gauge (2); it had an ascending vertical scale of numbers that were reflected in the car's surface. The number farthest away from the surface that was clearly reflected in the surface gave us a measure that proved more than adequate to distinguish various degrees of shine—a better measure, in fact, than that provided by the standard

widely advertised two-step finish, *Blue Coral,* or the one-step polishes we tested—can be counted on to produce a coating that would remain on your car for more than about six weeks, under most conditions.

The crowded marketplace

Trying to choose a polish for your car can be confusing. In six cities, CU's shoppers found 128 products—one-step cleaner-polishes, two-step cleaner-polishes, plain cleaners, plain waxes and one-step wash-waxes. The labels don't always tell you clearly just what type of product you're buying.

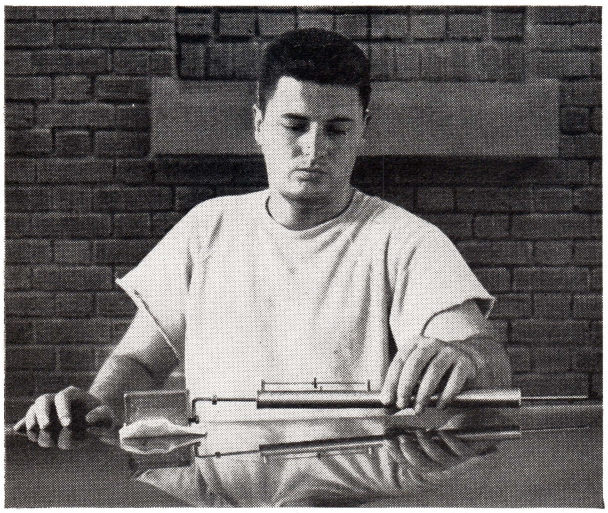
CU decided to devote its investigation to the most popular type of product—the one-step cleaner-polishes. We tested 23 of those most likely to be found countrywide. There are also two products—*Dyna Glaze Auto Polish* liquid and *Classic Car Wax* paste—whose manufacturers have come out with such fancy price tags (and in the case of *Dyna,* such extravagant claims for performance) that we decided to include them in the project as well. As a standard for comparison, we used two of the older two-step combinations: *Simoniz Liquid Kleener/Simoniz Wax* and *Blue Coral/Blue Coral Preservative Sealer.*

Most of the cleaner-polishes contain wax, and those that do—theoretically, at least—put down a more durable coating than those without wax. Products that contain wax usually have the word "wax" on the label. The coating of products without wax tends to be somewhat oily.

What you should get for your money

CU believes that, if you start with a finish only slightly dulled, a one-step product should bring it up to a high gloss with no more than moderate effort on your part. It shouldn't damage paint if you follow the car and the polish makers' instructions. It should put down a coating that stays with the car for a reasonable length of time and doesn't discolor during that time. The coating shouldn't come off under clear wash water or rain but *should,* when washed with clear water only, yield up any normal accumulation of soil. Even after the coating has worn off, there should be a permanent burnishing of the finish underneath.

To evaluate the various products for those character-



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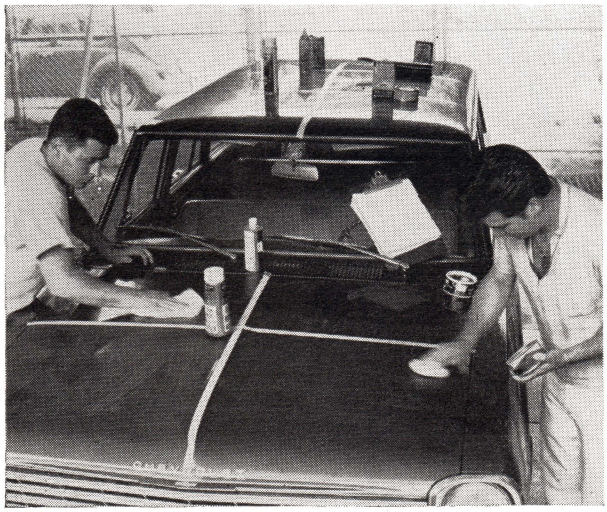

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reflectance gauges often used in laboratories. Then we tested for slickness. We rigged a precision push-pull gauge to a weighted cloth pad and measured the effort it took to move the pad across the surface (3). As with the measurements for shine, that simple friction-measuring device quite adequately pointed up differences in slickness.

Now we were ready for the polishes themselves. We sectioned off the test surfaces and used one product per section (4), rating each for ease of application and ease of removing polish residue and buffing. We removed the sectioning tape (which the owner understandably would have tired of during the two-month use test) and immediately tested each polished finish for shine and slickness, as described above.

About a week later, we went around and collected the car keys from the owner and drove the car back to our test area. We washed the car with clear water and clean toweling and noted, by the water-drop test described in the story, how well the polish coating was holding up. Then we towel-dried the car and went through the shine and slickness tests again. We followed that routine more or less weekly for about eight weeks.

At the end of the test period, we again put each car through the water-detergent-naphtha-detergent-water cleaning to remove any test residue. And, once again, we performed the slickness test to determine permanent burnishing of finish.

The use-test data was then complete, and ready to combine with the panel-test data. But what about those cooperative CU staffers who'd lent their cars for the project? For each, we supplied a fresh, all-over polish job, courtesy of our well-muscled technicians.

istics, we use-tested them on more than 30 cars belonging to staff members. We also applied the products systematically to more than 100 metal panels specially prepared with the kinds of paints used on today's automobiles—acrylic lacquer and acrylic enamel.

Before each application of polish we cleaned the paint surface thoroughly. We suggest you do the same. The "cleaner" part of a cleaner-polisher is for removing the deteriorated paint surface, not for removing heavy surface soil. If you didn't wash the car first, you'd run the risk of grinding gritty particles of dirt and sand into the paint when you buff the polish.

How easy, how bright, how long

Traditionally, the most effective polishes have been those that require the most elbow grease. Our testers found that unhappy fact still largely true. As you'll note in the Ratings, those polishes that scored highest in ease of application failed to produce any spectacular results when we evaluated performance characteristics. The *Wards Riverside Car Wax and Cleaner*, which won highest marks in all performance characteristics, rests near the bottom in ease of application. Its brandmate, *Wards Riverside Supreme Blue Cleaner-Wax*, was much easier to apply, but yielded correspondingly poorer results.

The first result you look for when you polish your car is a nice, shiny finish. Although that first glow isn't going to last very long, most people consider it important. Four of the six highest-rated products—*Wards Riverside Car Wax and Cleaner, Turtle Wax High Gloss Car Wax, Sears Allstate Paste Cleaner-Wax* and *Classic Car Wax*—produced a better initial shine than the two two-step controls did. And so did *Texaco Super* and *Simoniz Super Blue*, two products that ranked about midway down the list.

We assume you'd just as soon polish your car as seldom as possible. The "durability of coating" column in the Ratings tells which polishes put down a long-lasting coating in our tests. You can tell, just as we did, whether a car still has a coating. If it does, water will break up into drops on the surface. On an uncoated surface the water will tend to sheet. As we've said, the best record we could get for durability was about 40 days. One product, *New Simoniz Vista One-Step Cleaner/Wax*, did as well as its two-step Simoniz brandmate and the other two-step control, *Blue Coral*. At the other extreme was *Johnson's J Wax Liquid Carnu Cleaner/Polish*, which essentially disappeared after about eight days.

In addition to giving you a good initial shine and a coating that stands up reasonably well to time and cloudbursts, a cleaner-polish should confer a permanent benefit. As it's applied, its soft abrasives should smooth out or remove minor defects and roughness in the paint surface. We tested for that characteristic in part by drawing a clean, smooth, weighted cloth across the surface to determine slickness. The test was performed after the surface had been cleaned of any residue of polish coating. A top-ranking performer in that characteristic—as in all performance characteristics—was *Wards Riverside Car Wax and Cleaner. Classic Car Wax* was the only other product that did as well. *Turtle Wax High Gloss Car Wax*, which gave us a fine shine and lasted longer than average, offered very little in the way of permanent effect.

How to choose

Our best advice is to pick the product that seems to offer the compromise that suits you. And a compromise it will be, as a glance at the Ratings will show. The top-rated, all-round product, as we've pointed out, is unusually hard to apply. If you just don't have much time or energy for a car-wax job, you might consider *Turtle Wax New "High Gloss."* Or durability may be what you want most, even if the immediate effects aren't striking. In that case, you could try *New Simoniz Vista One-Step.*

It's difficult to judge price. You'll probably use more or less of a given product depending on your technique and on its consistency—paste, liquid or aerosol. CU generally provides a price per ounce, or some such figure, for comparison purposes. Here, we believe, it would not be meaningful. Further, our shoppers found widely varying prices for the same product.

When should you polish?

The first question is how soon you should wax or polish a *new* car. Advice on that point varies widely among new-car manuals. CU's 1968 *Ford Mustang* manual says flatly that the car's finish never needs waxing under normal driving conditions. Our *AMC Ambassador* manual offers no advice on waxing. The *Chevrolet Camaro* manual says nothing about when to wax, only that you may. Chrysler, in its *Newport* manual, says you can polish the car immediately if you like, using their own brand, *Mopar Automobile Polish*, and that you shouldn't use any other type of cleaner or polish until the enamel has aged and hardened for at least three months.

Actually, you shouldn't use an abrasive until the paint begins to lose its gloss. All our tested products were at least mildly abrasive. A plain wax should be quite safe, though, if you think the car needs it for protection against corrosion.

The need for protection against corrosion will, of course, vary with your car's environment. One group of Canadian researchers has found, for example, that a car kept in a heated garage in winter may corrode twice as fast as one kept in an unheated garage or outside, and that an increase of only 18°F may actually double the corrosion rate. Ford researchers have reported that two years' exposure in Miami cut down a car's original paint gloss as much as three year's exposure in Detroit.

It is difficult for consumers to translate such isolated research findings into a program for fighting car corrosion. The best rule to follow is to give your car finish the minimum adequate care, both in quantity and in product muscle. Wash with clear water only, if you can get away with it. If not, try a mild soap. Next, a detergent. Then use a polish-only product if the paint is in good condition. Finally, use the water-drop test to judge when it's time to go over your car again.

RATINGS OF AUTO CLEANER-POLISHES

Listed in order of estimated overall quality, based on laboratory and use tests and on judgments of convenience. Closely ranked brands differed little in estimated overall quality. Prices are the averages of those paid by CU's shoppers.

KEY: A Average; + Above average; ++ Well above average; —Below average; ——Well below average

ACCEPTABLE	Price	Form	Ease of application	Initial shine	Durability of coating	Permanent burnishing of finish
WARDS RIVERSIDE CAR WAX AND CLEANER (Montgomery Ward)	8 oz., 96¢	Paste	——	++	++	++
NEW SIMONIZ VISTA ONE-STEP CLEANER/WAX (Simoniz Co., Chicago)	9 oz., $1.67	Paste	A	A	++	A
TURTLE WAX HIGH GLOSS CAR WAX (Turtle Wax, Inc., Chicago)	10 oz., $1.57	Paste	A	++	+	——
SEARS ALLSTATE PASTE CLEANER WAX (Sears, Roebuck)	9 oz., 97¢	Paste	—	++	+	A
TURTLE WAX HIGH GLOSS SPRAY WAX (Turtle Wax, Inc.)	18 oz., $1.50	Aerosol	A	A	+	+
CLASSIC CAR WAX (Classic Prod. Ltd., West Palm Beach, Fla.)	18 oz., $4.95	Paste	——	++	+	++
TURTLE WAX NEW "HIGH GLOSS" CAR WAX (Turtle Wax, Inc.)	18 oz., $1.42	Liquid	++	A	+	—
WARDS RIVERSIDE SUPREME BLUE CLEANER-WAX (Montgomery Ward)	16 oz., $1.25	Liquid	+	A	+	—
NEW SIMONIZ VISTA INSTANT CLEANER-WAX (Simoniz Co.)	14 oz., $1.84	Aerosol	A	A	+	A
WESTLEY'S FABULOUS GLOSS CONCENTRATE AUTO POLISH (Westley Industries, Cleveland)	16 oz., $1.67	Liquid	++	A	A	A
CAR-SKIN BLUE DIAMOND (Car-Skin Prod. Corp., Flemington, N.J.)	16 oz., $1.93	Liquid	++	+	A	A
DU PONT NEW CAR WAX (E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.)	8 oz., $1.27	Paste	——	+	+	A
TEXACO SUPER CAR CLEANER AND WAX (Texaco, Inc., NYC)	16 oz., $1.36	Liquid	+	++	A	A
SIMONIZ SUPER BLUE LIQUID ONE-STEP CLEANER/WAX (Simoniz Co.)	14 oz., $1.58	Liquid	A	++	A	——
SEARS ALLSTATE LIQUID CLEANER-WAX (Sears, Roebuck)	14 oz., 90¢	Liquid	++	A	—	A
PRESTONE HI-SPEED SILICONE CAR WAX AND CLEANER (Union Carbide Corp., NYC)	9 oz., $1.09	Paste	——	A	A	A
JOHNSON'S J WAX KIT CLEANER/WAX (S.C. Johnson & Son, Inc., Racine, Wis.)	8 oz., 94¢	Paste	++	A	—	—
PRESTONE JET WAX CAR POLISH-CLEANER (Union Carbide Corp.)	16 oz., $1.33	Liquid	++	A	A	——
JOHNSON'S SPRAY SHINE CARNU (S. C. Johnson & Son, Inc.)	14 oz., $1.19	Aerosol	+	A	—	+
SEARS ALLSTATE INSTANT CLEANER-WAX (Sears, Roebuck)	14 oz., $1.13	Aerosol	A	—	A	A
WESTLEY'S VELVET CREAM AUTO POLISH (Westley Industries)	10½ oz., $1.32	Paste	A	——	A	—
DU PONT NO. 7 AUTO POLISH AND CLEANER (E. I. du Pont de Nemours & Co., Inc.)	16 oz., $1.19	Liquid	+	—	——	A
WARDS RIVERSIDE FOAM WAX & CLEANER FOR AUTOS (Montgomery Ward)	14 oz., $1.75	Aerosol	++	——	—	A
DYNA GLAZE AUTO POLISH (G & A Industries, Inc., Bklyn., N.Y.)	16 oz., $3.00	Liquid	++	——	——	A
JOHNSON'S J WAX LIQUID CARNU CLEANER/POLISH (S. C. Johnson & Son, Inc.)	16 oz., 99¢	Liquid	A	——	——	—
The following two-step combinations of products were used as controls against which to measure the tested products.						
SIMONIZ LIQUID KLEENER	16 oz., 72¢	Liquid	—	+	++	+
and SIMONIZ WAX (Simoniz Co.)	7 oz., $1.03	Paste	——			
BLUE CORAL	12 oz., $2.13	Liquid	——	+	++	++
and BLUE CORAL PRESERVATIVE SEALER (H.D.T. Co., White Plains, N.Y.)	8 oz., $2.23	Paste	——			

The trouble with color TV

The service people told us that our set could not be repaired. The president of the company told us to contact the local representative, who said he cannot make the president's decisions!

Last year I bought one of the color-TV sets you had check-rated. Thanks for nothing. I've never been able to get the color to hold, and the manufacturer won't even acknowledge my letters. Tell me, how do you arrive at your recommendations? Do you really check the products?

So asks Mrs. R.C., one of a growing number of disenchanted color-TV owners. The answer to her last question is Yes—we really check the products. But we can't check quality control in a large sampling of each model, and there's no way to tell whether gremlins will creep into a set during shipment or after it reaches the buyer. All we can tell you is how the set performed for us—*when in proper operating condition.* If a set we buy is defective, we repair it—or get it repaired—before we start testing.

As the evidence comes in, there seems little doubt, as we warned readers in our January report on color TV, that a color set can be a very chancy thing indeed. Too many of our own test sets have come with defects. And we've been getting steady playback from our readers in the form of such letters as the ones quoted on these pages. The volume is great enough for us to state that the color-TV buyer should be especially on guard. Of all types of products, only autos generate more complaints.

Defects that show up a day, a week or a month after the set is delivered and adjusted are bad enough. But most of the letters go on to say that, too often, it's downright impossible to get the defects corrected. Over and over we read about put-offs, evasions and buck-passing among manufacturer, service agency, dealer and repairman—and, it would appear, just plain incompetence. If the owner is fortunate enough to get any attention at all, his set may well be shop-bound for weeks while he misses his favorite shows or makes do with his black-and-white set. It seems a bit much that a TV set costing $500, $600 or $800 should be out of whack five times, eight times—in one case *13 times*—in a fairly short period, and at the end of all that "authorized" service, *still* be out of whack.

Not to mention the expense. Color TV costs more to repair than black-and-white. And if the picture tube needs to be replaced, costs really soar. Until recently, every manufacturer guaranteed the picture tube for one year from the day the set was bought. But if a 23-inch-diagonal color tube fails after a year and one week, say, there goes another $150 to $175 for a new one. Judging by our mail, picture-tube failures shortly after the year is up are not rare.

CU can think of only one defensive strategy: Before you buy, buttonhole your friends, seek out neighbors and office colleagues who own color sets, and find out what their experience has been with various brands and service organizations. Arrangements for servicing differ so widely—by brand and by area—that it's hard to generalize. But if you know someone, or preferably two or three people, who did reasonably well with Brand A bought from Dealer B and perhaps serviced by Repair Company C, we'd advise you to go and do likewise.

There's no doubt that the color-TV people have their troubles, too. Manufacturing and servicing is more complex with color than it is with black-and-white. Simple tube replacement, for example, which most servicemen accomplish easily in black-and-white, often involves, in color, additional adjustments. Color sets gushed onto the market in such a flood in the last three years that the repair industry was swamped; not nearly enough technicians could learn the new repair and adjustment procedures fast enough. But those are problems the industry should solve—and not, we think, at the consumer's expense.

We hope to offer some guidance in a report based on responses to our 1968 Annual Questionnaire and scheduled for publication early in 1969. The Questionnaire will include questions on readers' experience with color sets, brand by brand. The resulting data would not, of course, predict how a new model might behave, but it should give a brand-performance index along the lines of our earlier Questionnaire studies on the repair histories of black-and-white TV, refrigerators, automobiles and dishwashers, and this month's report on air-conditioner frequency-of-repair (see page 253).

As we went to press, Admiral announced that it was extending its warranty on color picture tubes to three years. That's a step in the right direction; we hope other manufacturers follow the lead. But longer warranties will not by themselves solve the repair problem. Until there's a more reliable product and a more knowledgeable repair industry, the trouble with color TV should give pause to any potential buyer of this expensive product.

My color set was delivered promptly but service to get it operational spread out spasmodically over several weeks with the dealer finally agreeing it did not work very well but that he could not spend any time on it.

Letters to the company went unanswered, and a telephone call finally elicited the information, "We only guarantee the picture tube. We do not guarantee the set will work." They suggested I pay another franchised dealer to adjust the set.

The repair man had our set for five weeks; and as soon as it was returned to us, it was out of focus—there are lines in it—the color is green (even though we have the green tint turned all the way out)—there is continuously a series of all different color bars going through the picture. He refused even to come and look at the set (saying that he wasn't going to leave a paying customer to come and look at our set for nothing). Since then the dealer has been giving us the run around.

During the first three months we enjoyed only about three weeks of entertainment because the picture tube had to be replaced twice. Four months after the warranty had expired, the real blow landed. The transformer burned out and will cost about $100 to repair.

We are once again watching our black & white TV. The color set has become a financial disaster, and we doubt whether it is even worth repairing. The company said it was an "unfortunate situation" but there wasn't anything they could do about it.

At fourteen months the blue gun of the color tube failed. Most of us expect and accept the fact that minor parts or tubes may have to be replaced occasionally, but to find that a picture tube fails two months after a warranty expires, with no recourse except to purchase a new one for about one-third of the original cost, hardly fulfills the manufacturer's claim of reliability.

Our set has large color blotches of yellow, red and blue. The service man had done all he could. But there was not any improvement. My dealer is now very reluctant to replace the set even though he had agreed to do that if those color blotches could not be satisfactorily removed. He said he will suffer losses because he will not be able to sell the set to anyone else and the company will not reimburse him for the bad set.

Although we have spent over $250 for repairs on our set, we have no color.

On the second day the picture started stretching and contracting. After many calls to a technician who came after two weeks, the defect could not be corrected so the chassis was taken to the shop for 10 days. When it was delivered the defect showed up again. A B & W set on the same antenna and line works fine so it cannot be a local disturbance. The dealer will not exchange the set.

I purchased my color television one year and nine months ago. I have spent $295 on repairs and a new picture tube. The company sent me a polite letter saying that this is my problem not theirs. I disagree.

BAIT-CASTING REELS

THERE SHOULD BE ONE TO MATCH ANY FISHERMAN'S DEGREE OF SKILL AND LEVEL OF INTEREST

Many fishermen who set out for bass, pickerel, pike, muskies or other fighting fresh-water heavies prefer bait-casting gear to spinning gear. Spinning gear has enjoyed an immense popularity in recent years, partly because it can be used with the ultra-light lures and partly because it is unlikely to produce that fisherman's nightmare—the "bird's nest." But spinning gear doesn't make quite the demand on an angler's skill that bait-casting gear does, nor does it allow as full a range of control. Thus there's still a full range of bait-casting tackle on the market. And judging from our tests of 17 bait-casting reels priced from $10.50 to $50, plenty of models will give you good support against the fresh-water battlers.

Most of the better reels were in the upper part of the price range. But one of the three check-rated reels, the *Ambassadeur 2600*, rated as a Best Buy at about $20. And several even less-expensive reels, though lower rated, ought to do an acceptable job for the occasional fisherman.

Thumbs up

Every experienced bait-caster knows that a sophisticated right thumb (or left one, if you're a southpaw) catches more fish than any gadget does. Since the spool turns to let out line (in contrast with the stationary spool of spinning gear) you hold the line with a thumb on the spool until the right instant to let go during the cast. Then you thumb the spool again lightly as the lure pulls out line. That controls the length of the cast and keeps the spool from overrunning and causing a backlash tangle, or "bird's nest," as the line slows down on its way to the water.

That knowing thumb can make all the difference between a cast with finesse and a fiasco. Let the spool go too soon during the cast, and the lure goes up in the air; let the spool go too late, and it slams into the water near your feet. Stop the reel too soon after the cast and you shorten the cast more than you may want; stop it too late, and you may have a backlash, which can mean time wasted in untangling, or even loss of some line.

The caster can control the length of his casts by varying the pressure of his thumb as the line goes out; with practice, he can set the lure down just about where he wants it.

With the cast made, you shift the rod from right to left hand; the right hand takes over and reels in the line when a fish is hooked. Now the left thumb may get into the act, if you want to give the fish a hard time on the hook; more on that presently.

Using a medium-action rod and a 5/8-ounce lure, we tested the reels to see how much help each would give the fisherman in carrying out the main bait-casting maneuvers. You will usually want to put down your lure from 30 to 60 feet away. All the reels let us cast the lure as far as 80 feet without undue effort. (With one sample of the *True Temper Ocean City 1600*, we couldn't control casts consistently; a second sample performed much better.)

Help for the thumb

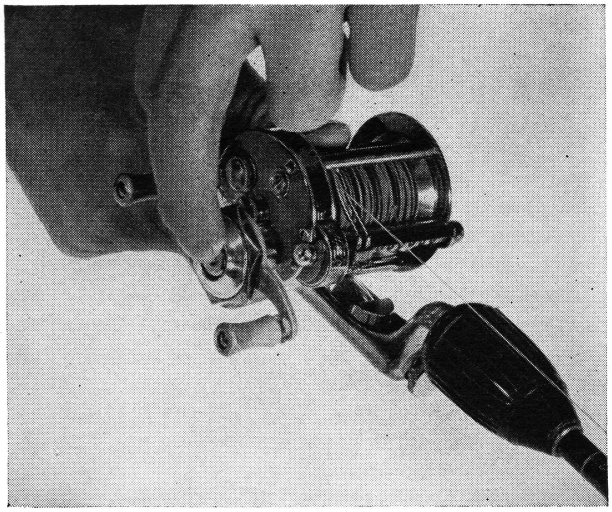
When it comes to preventing backlash, the neophyte, especially, will need all the help he can get. But even an old pro, who can depend on his thumb to do the job unaided, may welcome a mechanical backup from time to time. As the Ratings show, there were big differences among the antibacklash devices on the tested reels.

In every case the antibacklash operation depended on some sort of adjustable friction device to keep the spool from spinning too freely at the end of the cast. In general, the trouble with the lower-ranked reels was that if we tightened the antibacklash device enough for it to be effective, our casts got noticeably short. By contrast, the three check-rated reels and the two following—the *Sears 31152* and the *Shakespeare 1930*—could be adjusted so that the merest touch of the thumb toward the end of the cast would stop the spool without backlash and without shortening the cast significantly. In fact, you can probably keep your thumb off the check-rated reels entirely, even at the end of the longest casts, if the antibacklash device is adjusted properly. But you should be *ready* to use your thumb toward the end of any cast; not even the expert will manage a perfect trajectory every time.

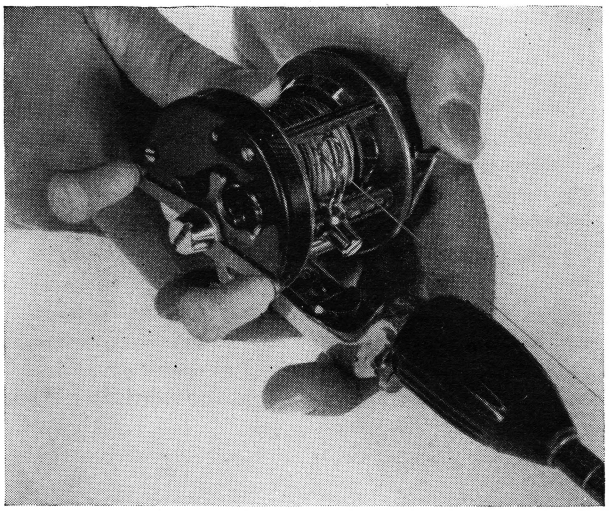
If you hook a big one and want to tire him out, you can make him work hard for the line he pulls out by putting some thumb pressure on the spool. Several reels (see Ratings) have adjustable drag mechanisms that should be more convenient than your thumb. The mechanisms on these reels are called "star drags," because of the shape of their control wheel (see photo, this page). Star drags are usually placed so you can increase or decrease the drag easily for playing a fish. They also serve as a slip clutch, reducing the chance of a broken line or rod tip when a fish rushes suddenly.

When you are winding in line, with or without a fish on the other end, the line must be distributed evenly across the spool for efficient storage and good action during subsequent casts. Each reel has a level-wind mechanism that guides the line from side to side as it comes in. All worked well in our trials. The level-wind on the *Heddon Heritage* puts the line on in a somewhat wide-angled helix. That reduces the possibility of outer loops being pulled down between inner ones under heavy load, and thus could be an advantage when you're fighting a powerful fish or trying to unsnag the line.

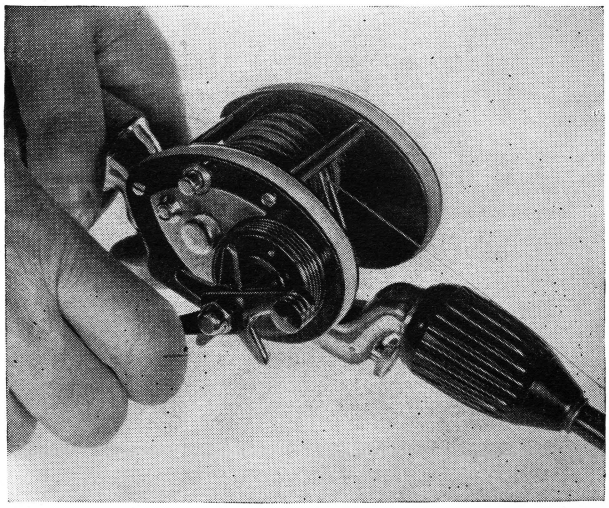
After a lot of use, the pawl—the finger that rides back and forth in the level-wind's cam—will probably wear enough to need replacing. On all the tested reels, it's an easy job with a small screwdriver. Some reels came with a spare pawl (see Ratings), a convenience. You can buy replacements for the others at less than $1. The pawl of



User has to reach across the reel with his left hand to actuate free spool on the Pflueger Akron, an inconvenience



On the Heddon 30, the lever controlling the free spool is easily operated by left hand, while right holds the rod



The "star drag" (long-toothed wheel under the crank on the Wards, above) allows you to adjust the drag easily

BAIT-CASTING REELS
continued

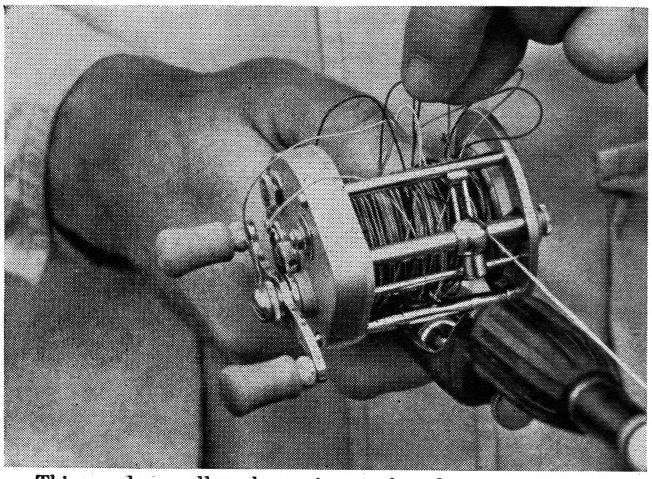
the *Revelation V7346* was a double-ended one; when one end wears out, you simply turn it end for end, thus doubling its useful life.

A couple of other features intended to make your fishing easier are the free spool and the click. The free spool—found only on the higher-rated reels—allows you to disconnect the spool from the handles and some of the gearing. This does away with the inertia of the parts that would otherwise turn when the line goes out during a cast. With the free spool on, then, it would seem that you should be able to make longer casts. But our 5/8-ounce lure didn't go noticeably farther with the free spool on than with it off. The feature can be handy, though, for still fishing from dock or boat. When a fish strikes, it's more likely to swallow the bait, rather than spit it out, if the line runs out very freely. The free spool also makes it easy to let line out behind the boat when trolling.

The click does what you'd expect: It clicks. You set it so that when the spool turns it gives you an audible, ratchety warning that line is running out. That can be helpful in still fishing or trolling, when you might put the rod in a stand or holder so you can relax nearby. But when you keep the rod in your hand, the click doesn't tell you anything you don't already know. Probably the click's most useful function is to keep line from unwinding in storage or when attaching a lure.

The capacities of the reels ranged from 75 to 100 yards of 15-pound-test braided line—enough for practically any variety of bait-casting, and more than enough for still fishing or casting for small fish. For those, you could well get along with less line.

One way to use less line is to attach an arbor to the spool (arbors are supplied with a number of reels). In effect, an arbor is an enlarged spool axle; with the arbor, it requires less line to fill the spool. (And the spool *should* be filled for best casting and fastest retrieving.)



This spool was allowed to spin on after the cast ended, and the resulting backlash made a maddening tangle in the line

Durability should be no great problem with the tested models. The bearings (one of the main wear points) on most ought to last a long time if oiled and cleaned properly. The *Ambassadeur 5000C* is the only one of the tested reels with ball bearings, but they did not seem to be an essential factor in the reel's good performance. Generally good workmanship, which is noted in the Ratings, is probably more important to long life than just the choice of bearings.

Buying and keeping

Adding it up, we'd say that the novice bait-caster who is serious about taking up the sport should buy one of the check-rated reels. It will give him maximum support during the learning period and good performance as he gains skill. If he can get along without a star drag, he should consider the Best Buy *Ambassadeur 2600* first; it lists at about half the price of the other check-rated reels. The expert might like any of the same reels, or perhaps the *Pflueger Supreme*. The *Pflueger Supreme* has no drag mechanism and did not control backlash as well as some others, but it, like the two top-rated reels, does boast very good workmanship.

The occasional bait-caster, who goes out only a few times a year, could be satisfied with any reel down to and including the *Pflueger Trump*, which lists for only $13.50. The higher price one must pay for maximum convenience and effectiveness may not seem worthwhile to the occasional fisherman, since even the lower-ranking reels should let him make satisfactory casts and retrieves when used with reasonable skill.

As with any other product, there may be sample-to-sample variations (several of our samples were defective), so buy any reel with return privileges. The only reels with a formal warranty card were the *Ambassadeurs*, which guarantee their parts against defects for life.

Taking care

To keep a reel going, you should dismantle it and clean it thoroughly at least once a year. For the cleaning, a reel should be easy to take down, with a minimum of small parts that can come loose and get lost. Easy takedown would be particularly welcome should your reel fall in the dirt when you are out fishing; you should clean it thoroughly then and there before you make another cast. Only two reels—the *Ambassadeurs*—were very easy to take down. They were the only tested reels that could be stripped into basic subassemblies without tools. (Generally, bait-casting reels require some care in dismantling.) The bottom-rated *Zebco* seemed especially irritating to take down. The screws holding it together stripped their threads after the reel had been dismantled just a few times. They then become very difficult to turn.

When you are fishing, put a few drops of oil on the spots indicated by the manufacturer once or twice a day. With proper lubrication, you needn't take any special measures against corrosion when using any of these reels in fresh water. But if you shift to salt water, dismantle your reel at the end of each day's sport, flush the reel out thoroughly with clean fresh water, let it dry, and then relubricate it.

RATINGS OF BAIT-CASTING REELS

Listed in order of estimated overall quality, based on results of field tests and engineering evaluations. Closely ranked models differed little in overall quality. Capacities are to nearest 25 yd. using 15-lb.-test braided line without an arbor; weights are without line, to nearest ½ oz. Prices are list; discounts are generally available.

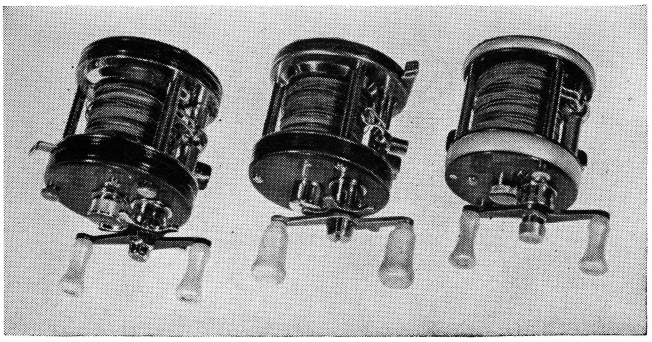
Except as noted, all models permitted controlled casts, with a ⅝-oz. lure, of distances judged adequate; had fairly effective antibacklash mechanisms; had retrieves judged smooth, with even distribution of line on the spool by a level-wind device that was judged poorly protected against dirt; and had basic takedown judged reasonably convenient for this type of reel. Unless otherwise indicated, each model had general workmanship judged adequate; an on-off click judged sufficiently audible and convenient to operate; and lacked star drag, free spooling mechanism, extra pawl, and arbor.

ACCEPTABLE

✓ **AMBASSADEUR 5000C** (Garcia Corp., Teaneck, N.J.), $40. 100 yd. 10½ oz., somewhat heavier than other models tested. Antibacklash effectiveness, excellent, with no thumb control required in a proper cast, and judged easier to adjust than with most other models. Protection of level-wind against dirt, better than on most others. Takedown, more convenient than with most other models; screwdriver not required. General workmanship, somewhat superior to that of most other models. Does not have on-off click; click is part of star drag mechanism, judged somewhat less desirable than most others. Has star drag, free spool, extra pawl and arbor.

✓ **HEDDON HERITAGE 30** (James Heddon's Sons, Dowagiac, Mich.), $46.95. 100 yd. 9 oz. Antibacklash effectiveness, excellent, with no thumb control required in a proper cast, and judged easier to adjust than with most other models. Protection of level-wind against dirt, better than on most others. Level-wind lays line on spool in coarser pattern than with any other model, a potential advantage (see story). General workmanship, somewhat superior to that of most other models. Does not have an on-off click; click is part of star drag mechanism, judged somewhat less desirable than most others. Has star drag, free spool (judged more convenient to actuate than on any other model) and arbor. Has removable rubber boots over handles for added comfort.

✓ **AMBASSADEUR 2600** (Garcia Corp.), no list price; approximate retail price, $20 to $22. 75 yd. 6½ oz. Antibacklash effectiveness, excellent, with no thumb control required in a proper cast, and judged easier to adjust than with most other models. Protection of level-wind against dirt, better than on most others. Takedown, more convenient than with most other models; screwdriver not required. Has free spool. ***A BEST BUY.***



✓Ambassadeur 5000C ✓Heddon Heritage ✓Ambassadeur 2600

SEARS TED WILLIAMS Cat. No. 31152 (Sears, Roebuck), $19.25 plus shipping. 100 yd. 6 oz. Antibacklash effectiveness, very good, with less thumb control required than with most other models, and judged easier to adjust than with most other models. Click, somewhat less convenient to disengage than average. Has arbor.

SHAKESPEARE HYDRO-FILM 1930 (Shakespeare Co., Kalamazoo, Mich.), $22.50. 100 yd. 6 oz. Essentially similar to *Sears 31152*, preceding, except for trim. All other comments apply.

PFLUEGER SUPREME 1573 (Pflueger Corp., Akron, Ohio), $50. 100 yd. 8 oz. Protection of level-wind against dirt, better than on most others. General workmanship, somewhat superior to that of most other models. Has extra pawl and arbor. Has rubber boots over handles for added comfort. Has rubber cover over backplate, an advantage for comfort and quiet.

PFLUEGER AKRON 1895 (Pflueger Corp.), $26. 100 yd. 8 oz. Has star drag, free spool and extra pawl.

WARDS HAWTHORNE Cat. No. 6316 (Montgomery Ward), $17.99 plus shipping. Casting and control may be somewhat inconvenient for some users at first; spools mounted lower than with most others tested, and rear pillar mounted farther out. Has star drag, free spool and arbor.

J. A. COXE INVADER 26 (True Temper Corp., Cleveland), $34.95. Essentially similar to *Wards 6316*, preceding. All comments apply.

PFLUEGER AKRON 1893 (Pflueger Corp.), $21. 100 yd. 8 oz. Has extra pawl.

REVELATION V7346 (Western Auto Stores), $10.50. 100 yd. 5 oz. Casting and control may be somewhat inconvenient for some users at first; spool mounted lower than with most others tested, and rear pillar mounted farther out. Has star drag and arbor. Double ended pawl should last longer than most (see story).

SHAKESPEARE PRESIDENT 1970A (Shakespeare Co.), $50. 100 yd. 6½ oz. Has arbor.

SHAKESPEARE DIRECT DRIVE 1928 (Shakespeare Co.), $18.50. 100 yd. 5½ oz. Has arbor.

HEDDON PRO-WEIGHT 26 (James Heddon's Sons), $21.95. 75 yd. 5½ oz.

PFLUEGER TRUMP 1943 (Pflueger Corp.), $13.50. 100 yd. 7 oz. Straight-toothed gears may eventually become rough and noisy.

TRUE TEMPER OCEAN CITY 1600 (True Temper Corp.), $10.95. 100 yd. 7 oz. Handles judged too small for continued comfort in retrieves.

¶ *The following model was judged substantially lower in overall quality than those preceding.*

ZEBCO STREAMLITE 310 (Zebco Div., Brunswick Corp., Tulsa, Okla.), $17.95. 75 yd. 6 oz. Antibacklash effectiveness, poor; edge of spool rubbed endplate, causing uneven drag. Level-wind better protected against dirt than most others. Only model tested with no loose internal parts. Takedown, potentially inconvenient; tapped holes and screw threads stripped on two samples; judged a design shortcoming.

WHAT YOU GET FOR YOUR MONEY IS CONVENIENCE

Anyone who's ever put in a long, hard day cleaning windows has probably finished the chore with a sneaking suspicion that there's *got* to be a better way. Perhaps it's the promise of a better way that brings manufacturers of window-cleaning products $18 million a year in sales.

What do consumers get for that $18 million? To find out, CU tested 18 widely sold cleaners. We wanted to know whether some worked better than others, how likely they were to damage nonglass finishes if not wiped off, and how they compared in cost. Most of the tested cleaners are "spritzers"—either aerosols that come with their own propellant or liquids squirted by a finger-pump—but we also tried out two abrasive creams.

We tested the products on panes exposed for five months on our roof, and on glass stained with laboratory-formulated soils. We also cleaned a few windows in CU's headquarters at Mount Vernon, N.Y., and in homes within commuting distance of New York City. So far as cleaning power alone is concerned, our findings were very simple: We judged all the cleaners about equally efficient for normally soiled windows.

It may be, though, that the soil in your area is harder to clean off than the soil we encountered. Thus, we can't say categorically that any of these cleaners will do as well as any other—for you. Your windows may collect soil that responds best to a detergent; some cleaners contain a detergent, and some contain more of it than others do. Or you may have soil that tends to withstand an alkali, such as the ammonia that most commercial cleaners contain. In that case, vinegar and water may be your answer. (But don't add vinegar to a commercial cleaner; vinegar and ammonia neutralize each other.) Still, most people should get satisfactory results with any of the tested products.

We did find some difference in performance with stubborn soils. The two abrasive creams—*New Glass Wax* and *Wilbert No-Rub for Glass*—were noticeably better at removing very stubborn soils than were any of the aerosols or liquids. But the creams are less convenient to put on and take off, and when you wipe them off they form a dust that may be a nuisance. We would suggest trying one of them only when an aerosol or liquid doesn't clean well enough. As between the two creams, we didn't detect any appreciable difference in soil-removal efficiency.

The aerosols were more convenient to use than the liquids with their finger-pump squirters. The aerosol sprayed on more evenly (the liquids tend to run down the window), and they did not tire the hand—a feature that becomes increasingly important as the number of windows to be washed increases.

If you're cleaning normally soiled windows, then, and assuming you've decided between aerosols and liquids, shouldn't you simply buy the cheapest brand? Not necessarily. Some glass cleaners marred nonglass surfaces when spills and drops were not wiped off. And it's easy to overlook a drip on a window sill or mirror frame.

Most of the labels fail to warn clearly that the product could damage some finishes, and thus alert the user to wipe spills off quickly. *Aeromist*, which softened paint to the removal point in at least four out of five trials on test panels covered with low- and intermediate-resistance paints, did specifically warn against prolonged contact with painted or varnished surfaces. Other cleaner labels merely said something like, "Do not use on furniture or auto bodies." We don't think that spells it out clearly enough. And three of the five products with no such warning at all were judged to have a relatively high potential for marring finishes. Those were *Easy-Off* and the two *Bon Ami* cleaners. If you find you've overlooked some spills and drips, and they've been sitting around for a while, just blot them up gently—rubbing may damage a softened finish underneath. Let the places dry overnight, then clean them in your regular way the next day.

Aluminum window frames present no staining problem with glass cleaners. Even old stains could be removed easily with soapy steel wool.

Containers and labels

Aerosol containers are sometimes subject to various shortcomings that result in a weak or uneven spray or in your getting less than you should of the product. With the window cleaners, though, we found very few such problems—and those not consistent within any given brand.

Labels on all the aerosols carried the required warnings for self-pressurized containers, and also cautioned the user to keep the can out of children's reach. The nonaerosols didn't bear the latter warning, though they might well do so. Even if the cleaner isn't toxic, swallowing it is not likely to be a pleasant experience.

About the only other comment we have on the labels is that we wish manufacturers wouldn't be cute. *Windex* liquid had instructions that were printed not only in extremely small type but on the back of the label, so that you

must try to read them through the distorting glass and liquid.

In general, the finger-pump cleaners were lower priced than the aerosols, ounce for ounce. Also, you need buy the finger-pump container only once. Thereafter, you can get refills, which are substantially cheaper per fluid ounce. And if you really want to economize on window cleaners, you can buy one finger-pump container, then refill it with your own mixture of ammonia and water. The mixture we made up seemed to do just about as efficient a job of cleaning the windows at CU and in nearby areas as any of the commercial aerosols or liquids we bought for testing.

So, to get back to our original question, what does a consumer get for the money he spends on window cleaners? A chance, we found, of buying a product that can damage nonglass finishes. As for cleaning power, he gets very little —except in the pastes, which are effective against stubborn soils. With the liquids and aerosols, he buys mainly the convenience of a spray can or bottle plus, sometimes, a cleaner that smells better than your kitchen mix. Beyond that, it's still wipe and wipe and wipe. Sorry, there is no better way.

RATINGS OF WINDOW CLEANERS

Within types, listed by group in order of increasing potential to mar finishes and within groups in order of increasing price. Ammonia odor is noted only where relatively strong or absent. Prices are the average of those paid by CU shoppers and are by weight for the aerosols and by volume for the abrasive creams and the liquids; the calculated cost per oz. or per fl. oz. is given in parentheses.

ACCEPTABLE

AEROSOLS

Aerosols were judged the easiest type to apply. All were judged about equally efficient, and about equally as efficient as all the liquids, for cleaning normally dirty windows. Except as noted, all came in 15-oz. containers.

¶ *The following six cleaners were judged to have relatively low potential to mar finishes.*

NO-RUB FOR GLASS (Wilbert Prods. Co., Inc., NYC), 49¢ (3.3¢). Relatively strong ammonia odor.

NEW AJAX WINDOW CLEANER WITH HEXAMMONIA (Colgate-Palmolive Co., NYC), 55¢ (3.7¢).

NEW HI-POWER WINDEX WITH AMMONIA-D (The Drackett Prods. Co., Cincinnati), 59¢ (3.9¢); 20 oz., 81¢ (4.1¢).

GARRY'S PROFESSIONAL GLASS CLEANER (Garry Laboratories, Inc., Buffalo, N.Y.), 19 oz., 98¢ (5.2¢). Relatively strong ammonia odor.

HAGERTY GLASS BRIGHT (W. J. Hagerty & Sons, Ltd., Inc., South Bend, Ind.), 80¢ (5.3¢). Relatively strong ammonia odor.

REEFER-GALLER GLASS CLEANER (Reefer-Galler, Inc., NYC), 14 oz., 96¢ (6.9¢).

¶ *The following two cleaners were judged to have intermediate potential to mar finishes.*

TOPCO WINDOW CLEANER (Topco Associates, Inc., Skokie, Ill.), 36¢ (2.4¢). Relatively strong ammonia odor.

BRIGHT SAIL WINDOW SPRAY WITH AMMONIA (A&P), 43¢ (2.9¢).

¶ *The following four cleaners were judged to have relatively high potential to mar finishes.*

SEA MIST INSIDE 'N' OUTSIDE WINDOW CLEANER (Trager Mfg. Co., Inc., Scranton, Pa.), 45¢ (3¢). Relatively strong ammonia odor.

EASY-OFF WINDOW CLEANER WITH AMMONIA (Boyle-Midway, Inc., Cranford, N.J.), 51¢ (3.4¢); 22 oz., 74¢ (3.4¢). Relatively strong ammonia odor.

BON AMI INSTANT WINDOW CLEANER (Standard Household Prods. Corp., Holyoke, Mass.), 60¢ (4¢). No ammonia odor.

BON AMI CONCENTRATED JET SPRAY WITH AMMORPHALINE (Standard Household Prods. Corp.), 61¢ (4.1¢). No ammonia odor.

LIQUIDS

Liquids were judged less easy to apply than the aerosols. All were judged about equally efficient, and about equally as efficient as all the aerosols, for cleaning normally dirty windows. All came in an 8-fl.-oz. bottle. Except as noted, all came with a finger pump for spraying, and all could be bought in a 1-pt.-4-fl.-oz. refill.

¶ *The following three cleaners were judged to have relatively low potential to mar finishes.*

BRIGHT SAIL WINDOW CLEANER WITH AMMONIA (A&P), 26¢ (3.3¢); refill, 26¢ (1.3¢).

NEW AJAX WINDOW CLEANER WITH HEXAMMONIA (Colgate-Palmolive Co.), 29¢ (3.6¢); refill, 48¢ (2.4¢).

NEW HI-POWER WINDEX WITH AMMONIA-D (The Drackett Prods. Co.), 31¢ (3.9¢); refill, 46¢ (2.3¢).

¶ *The following cleaner was judged to have the highest potential to mar finishes of any of the cleaners tested.*

NEW AEROMIST GLASS CLEANER (Boyle-Midway, Inc.), without sprayer, 20¢ (2.5¢); sprayer, 19¢ (combination, 4.9¢); 1-pt.-8-fl.-oz. refill, 34¢ (1.4¢). Relatively strong ammonia odor.

ABRASIVE CREAMS

Abrasive creams were judged the best type for cleaning off the more adherent soils, but they require the most effort for "normal" soil. Dust resulting from wiping them off may be a nuisance. Both brands came in 1-pt. cans.

NEW GLASS WAX (Gold Seal Co., Bismarck, N.D.), 57¢ (3.6¢). Small orifice in plastic undercap made for easy dispensing. Relatively low potential to mar finishes.

WILBERT NO-RUB FOR GLASS (Wilbert Prods. Co., Inc.), 37¢ (2.3¢). Relatively high potential to mar finishes.

the docket

Notes on government actions taken to enforce consumer protection laws

The regulatory actions reported here have been selected from many such taken every month. The reports of Federal actions are based on releases issued by the agency or department concerned. Accounts of state and local actions are based on published news reports as well as on announcements received from enforcement officials. Consent orders issued by regulatory agencies differ from orders in litigated cases in that they do not constitute a finding or an admission that respondents have violated the law. Readers can help to expand the state and local coverage by sending appropriate newspaper clippings, complete with the name and date of publication, to: THE DOCKET
CONSUMERS UNION
MOUNT VERNON, N.Y.

FEDERAL TRADE COMMISSION

A company that sends **philatelic stamps** "on approval" to persons who have not ordered them was ordered by the FTC to stop using misrepresentation, subterfuge and coercion to get the recipients to pay for the stamps. Joseph L. and Betty Portwood, trading as The Portwood Co., Albuquerque, N.M., mailed unordered stamps to about 6000 names, the FTC said, and followed each mailing with a series of letters that "are false, misleading and deceptive and have the capacity and tendency to mislead and coerce . . . mailees into accepting and paying for [the] stamps." The FTC order required Portwood to revise the letters to include a prominent statement in each to the effect that recipients are under no obligation to pay for the stamps if they don't want to. The order also prohibited Portwood from shipping stamps to those who expressly ask the company not to make unsolicited mailings.

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FTC actions barred two companies from using "initial-label" **schemes for misleading buyers** into thinking certain perfumes were well-known brands, when in fact they were not. According to the FTC, Sellers Bros., Inc., Chicago, which also does business as "Renard" Distributors, "Renard Chicago," and "Mfr. Renard Chicago," operated this way: It would label its perfumes "A," "MS," "I," "J," "N," "S," "ST," "T" and "X." Then it would misrepresent the initials as standing for, respectively, "Arpège," "My Sin," "Indiscrète" (or "Intimate" or "Intoxication"), "Joy," "Chanel No. 5," "Shalimar," "Sortilège," "Tabu" and "X-Mas Night." The company signed a consent order agreeing not to use such letters or labels without a clear and conspicuous disclosure of the actual source of the perfume, and to cease representing in any way that their perfumes were the same as, or copies or chemical reproductions of, any well-known or nationally advertised brands. In an action on a nearly identical scheme, the FTC issued a final order on L'Argene Products Co., Inc., New York City, and on two officials, Joseph H. and Magda Somlo, prohibiting the use of letter labels without a clear disclosure of the actual source of a perfume, and prohibiting any misrepresentation that a perfume is, or is a copy of, a nationally advertised brand.

FOOD AND DRUG ADMINISTRATION

"Get rid of wrinkles, lines, double chins, bags, in just 30 days. . . . Ponce de Leon's dream of renewed youth can come true!" So said, in part, the ad for *Beauterna,* a **"cosmetic" machine** that applies electrical stimulation to the face and neck. The Food and Drug Administration has seized several of the machines, which are made by Kompac Industries, Canoga Park, Calif. The FDA charged false and deceptive labeling, there being some doubt that the machine will really turn back the march of age.

DEPARTMENT OF AGRICULTURE

In its first detention action under the new Federal Wholesome Meat Act (CONSUMER REPORTS, February 1968) the USDA seized some 540 pounds of **uninspected pork** at Mee Wah Lung, Inc., a Washington, D. C., restaurant. The meat had been shipped across state lines from Virginia in violation of the law, according to USDA. Informed that he was violating the law, the restaurant owner asked that the meat be destroyed. Before the new law went into effect, USDA could not detain unwholesome meat on its own authority; it had to call in the U.S. Food and Drug Administration or the local department of health.

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Regulatory agencies are responsible for any acts of their own employees that may subvert consumer protection programs. A USDA investigation recently led to the arrest of Joseph F. McGuigan, a USDA meat grader assigned to the Diamond Meat Company, Philadelphia. USDA charged that McGuigan put official USDA stamps on **ground beef** that had not been examined and accepted by meat graders. The USDA temporarily suspended grading service at the Diamond Meat Co.

STATE AND LOCAL

Fraudulent advertising and selling of **health club services** were barred by a consent order obtained by the Attorney General of California and agreed to by the Ray and Clare Stern Health Club, which does business in several California cities. Among the practices prohibited: omitting a clause from contracts that would relieve the buyer, or his estate, of liability in case of disability or death; using contracts with a monthly payment stamped or printed in them that is not the amount usually charged and, in fact, actually to be paid on the contract; representing that a reduced rate is being offered unless there is in fact a bona fide reduction; representing that contracts are inquiry forms or other innocuous documents that don't bind the signer; representing that the weight or physical measurements of customers are greater or less than they are; guaranteeing the loss of specified weight within a stated period unless there is a written agreement for cash return if the goal is not met; representing that time spent working out with or being subjected to various mechanical devices is equivalent to longer time spent in conventional exercises unless there is evidence supporting this.

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Nearly 300 men who bought clothes at Alvey's Clothes, Inc., Brooklyn, N.Y., got refunds of $7.50 apiece when the store agreed to stop adding that amount to each bill as a **"store credit service charge,"** and

to return the charge to customers who **had paid it.** The charge was in addition to a "finance company credit service charge" **of $10,** said the state Attorney General.

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Again, it's **encyclopedia selling.** A state court in Hawaii dismissed a suit filed by the Attorney General against Grolier International, of New York City, after the company signed a "letter of assurance" promising to discontinue selling tactics the Attorney General had called false and deceptive. Among the tactics: calling a salesman a "public relations man"; purporting that a salesman is interviewing consumers to find a "test family" when in fact the agent's sole purpose is to sell encyclopedias and related products; saying that books or other products are "free" when in fact the buyer signs a contract to pay the purchase price of the products; telling the buyer he need pay only a "small fee" to those who compiled the material, or the "royalties" or "authors' copyrights" when the payment is actually the price of the books; telling buyers that what they sign is merely a form to guarantee delivery of the books when in fact it is a binding sales contract.

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In one recent month the Michigan Department of Agriculture won 19 cases involving misbranding, mislabeling, false weights and measures and other **violations of state food standards.** Among those fined for selling substandard food: The Kroger Company, $25, for "watered" pork sausage; National Food Stores, Inc., $25, for low-protein wieners; Swift & Co., $75, for low-protein wieners; Wrigleys, $25, for fatty ground beef; S & S Super Market, $15, for sausage containing a prohibited ingredient.

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If you answered the advertisements of T.V. Land, in Los Angeles, for **rental of television sets** at $6 or $10 a month, you were almost invariably told that you did not have the required credit rating for the rental, according to a complaint filed by the California Attorney General's office. The complaint stated that customers were then strongly urged to buy a set instead. The Attorney General's office called the practice deceptive and illegal "bait" selling and won from a state court a "stipulated judgment" under which T. V. Land and its owner, Monte Testerman, agreed to refrain from fraudulent sales tactics, without any admission of wrongdoing.

FREQUENCY-OF-REPAIR RECORDS OF AIR-CONDITIONERS

If you're thinking of playing it cool this summer with a new air-conditioner, we've got some pleasant news derived from answers to CU's Annual Questionnaire for 1967. Of about 51,000 readers who answered the questions on air-conditioners, 80 per cent replied that their units had never required repair. That's a record roughly equivalent to that of refrigerators and far superior to that of washing machines and dishwashers—whose breakdown patterns our readers have reported on in previous years.

The air-conditioner questions sought not only statistics on repairs but also the sources of any owner dissatisfaction. Two-thirds of the owners did have one complaint or another. By far the biggest was noise; almost 40 per cent of all respondents found their unit too noisy inside the room.

The older the unit, the higher the proportion of complaints about its noise. Less than a third of the readers who bought their unit in 1967 complained about the noise; nearly half of those who bought one in 1961 complained. We can't say whether that is due to the simple fact that units get noisier as they get older or whether it also reflects the efforts of manufacturers to make their units quieter. Our recent test findings do indicate that by and large today's units are somewhat quieter than earlier models were when new.

Other complaints also tended to increase with the age of the unit—dripping of water outside the house, insufficient cooling, difficulty in changing the filter and corrosion of the cabinet. Increased ease in filter changing is probably due to refinements in design and manufacture, increased corrosion to the toll of age. As for the others, it's probably a little of both.

The following shortcomings were each mentioned by about 6 to 10 per cent of all respondents: filters too difficult to clean or change, stale-smelling room air, insufficient cooling, too much noise outside, dripping water outside, and uneven distribution of cool air inside the room. From 3 to 5 per cent of the respondents beefed about the following: too little ventilation, cabinet rusting or corrosion, inadequate dehumidification, too great a temperature fluctuation as the unit cycles on and off, drafts, blown fuses, and dripping water inside the room.

Types of repair required

The refrigeration system (compressor, evaporator, condenser) was the part of the unit that required the ministrations of a serviceman most often. Nearly one-third of the repaired units had refrigeration troubles—nearly 6 per cent of all units in the study. The thermostat ran second and the fan motor third.

As with complaints, repairs become more frequent, and often more serious, as the unit ages. We found that the percentage of units requiring repair rose about 3 per cent per year—from about 12 per cent in 1966 units to 31 per cent in 1960 units. In new units, the thermostat gave about as much trouble as the generally more troublesome refrigeration system. And in units more than five years old, the fan motor ranked about on a par with the refrigeration system.

Excessive noise and vibration, trouble with the switches or wiring and defective window-installation parts each accounted for 10 to 15 per cent of the repairs. Blocked air passages and blown fuses each

accounted for between 5 per cent and 10 per cent. Broken control knobs and louvers gave relatively little trouble, and no other types of repair were mentioned often enough to be of interest.

We were curious to find out whether regular servicing would reduce the likelihood of repairs. About 14 per cent of our readers told us that they did have a serviceman in from time to time to check their unit's operation, change the filter, clean and lubricate the unit and do other such chores. But it turned out that there was a *greater* incidence of repair among those who had their unit serviced than among those who didn't.

It's possible that an air conditioner that needs repair is more likely to get it if it's being regularly serviced. Perhaps the trouble comes to light only when the unit is checked out by the repairman. It's also possible that owners of units that have required repair are more likely to arrange for regular service than owners of machines that have never given any trouble. All in all, we think that regular servicing might possibly reduce the chances that your unit will break down in a hot spell, when you need it most and when you're most likely to have to wait for a repairman.

We can't assess from this study how satisfied our readers are with the servicing and repairs they have received. About 76 per cent of those whose units needed fixing reported satisfactory repairs in just one service call, but it's quite possible that in many of the cases where two calls were required, the additional delay was short—perhaps no more than a day.

However, delays are likely to be longer if a necessary part is out of stock—a circumstance that has been reported with all brands, and most often in connection with fan-motor problems. Our data did not disclose which brands were more or less likely to have trouble with the fan, but we did learn that some brands are more likely than others to have repair delays because parts aren't available.

When it came to the amount spent on repairs, age again was an important factor, the average expenditure increasing with the age of the unit. Owners whose units had required repairs spent an average of $6.50 on 1966 models, as compared with $17 on 1965 models. And for 1960 models the average went up to $30. Costs differed among brands, but we also found large differences among individual owners. More than a third of the owners with a repair history had the work done at no cost to them. At the other extreme, a small number—about 3 per cent—had spent $100 or more for their repairs. That wide spread held true for all brands except a few for which we had a very small number of owners reporting. So, while you're not very likely to run up a heavy repair bill on any brand of air-conditioner, no brand has a clean record in that respect.

You'll find the record of each brand, based on our respondents' experiences, in the box below.

How the brands compare

Listed below are the 16 brands of room air-conditioners that came out significantly better or poorer than average, according to our survey findings, in one or more aspects of performance or repair, and three that were average in all respects. Where no comment is made on frequency-of-repair or complaint, it was average. The data on four brands —*Comfort-Aire*, *Kelvinator*, *Mathes* and *Norge*—did not permit us to come to any meaningful conclusions.

ADMIRAL. More complaints than average; noisier than average; more complaints than average about uneven air distribution within the room.

AIRTEMP. Parts more readily available than average.

AMANA. Average in all respects.

CARRIER. Required repair more frequently than average; cost of repairs somewhat higher than average.

COOLERATOR. Required repair somewhat more frequently than average.

FEDDERS. Required repair somewhat more frequently than average; cost of repairs somewhat higher than average.

FRIEDRICH. Fewer complaints than average; much quieter than average; required repair more frequently than average; cost of repairs somewhat higher than average.

FRIGIDAIRE. Average in all respects.

GENERAL ELECTRIC. Cost of repairs somewhat lower than average.

GIBSON. Cost of repairs somewhat lower than average.

HOTPOINT. Repairs delayed more than average because parts were not readily available when unit broke down.

PHILCO. Fewer complaints than average; quieter than average; fewer complaints than average about water dripping outside the house; cost of repairs somewhat lower than average.

QUIET KOOL. More complaints than average; more complaints than average about uneven air distribution within the room and about cabinet corrosion; cost of repairs somewhat lower than average.

SEARS. Noisier than average; more complaints than average about water dripping outside the house and about difficulty of changing filters; fewer complaints than average about inadequate cooling, about temperature fluctuations during cycling and about inability to ventilate sufficiently; repairs delayed more than average because parts were not readily available when unit broke down; cost of repairs somewhat lower than average.

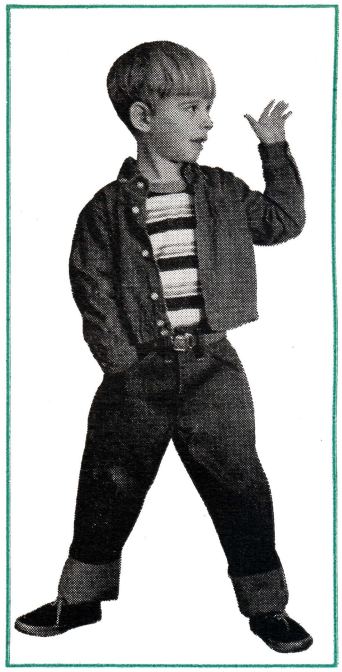
WARDS. Required repair somewhat more frequently than average; repairs delayed more than average because parts were not readily available when unit broke down.

WELBILT. More complaints than average; more complaints than average about cabinet corrosion and about inadequate cooling and dehumidifying.

WESTINGHOUSE. More complaints than average; noisier than average.

WHIRLPOOL. Average in all respects.

YORK. Required repair more frequently than average; cost of repairs somewhat higher than average.



boys' jeans

The modern boy's modern mother

may prefer the durable-press versions.

They save ironing, last longer

Not so long ago, when Mother marched Johnny into the store for a pair of pants, chances are she was after dark blue, all-cotton denim jeans and no nonsense about it. They'd leave with an inexpensive garment that wore like, well, denim—rugged enough to take almost all the tortures that a growing boy can devise, yet easy to launder. If Johnny had more-than-rudimentary thoughts about fashion, he pretty well kept them to himself.

These days, with pants made of corduroy, hopsack and a wide range of other fabrics threatening to nudge jeans out of their long-held position as favorite work and play pants, manufacturers have come out with jeans in loden, light blue, wheat, sand and other fashion colors. They sell best in the teen-age and preteen market, younger boys usually cleaving to the traditional dark blue. And durable-press jeans, in all sizes, have come on strong in recent years.

Jeans have a long and honorable history—and not only as boyhood's uniform of the day. Centuries ago, Frenchmen used to identify Genoese sailors by their heavy trousers, which the French dubbed *genes* (from the French word for Genoa). The word "dungarees," according to one tale, has a similar derivation—from the name of an Indian town, Dhungaree, whose Hindu sailors wore much the same garb. Even "denim" has a seafaring origin: It's a contraction of *serge de Nîmes*, a fabric so called because of the French town where the fabric was first developed as a sailcloth.

Today, the style is more or less landlocked. A favorite, as it has been for many years past, is the low-slung Western version, with its narrow tubular legs turned up into an untacked cuff, patch pockets in the rear and, often, contrasting stitching and rivet reinforcements. It was that style we bought for the present report—22 models, in a number of colors. Just over half the models were durable press; almost all come in regular, slim and husky cuts.

How they held up

One factor that has made jeans the classic ally of mothers through the years is their resistance to wear. To see how well the jeans would resist the snags that can suddenly appear as the wearer goes over a fence and the stresses of extra poundage or of squatting with overloaded pockets, we tested swatches from each model for tear strength and for burst strength.

We found that resistance to tearing and bursting depends mainly on fabric weight and composition (often noted on the brand label or disclosed on the tag required by the Textile Fiber Products Identification Act). You can buy jeans in weights from an almost canvaslike 14 ounces per square yard down to a more pliant 10 or 11 ounces. In the all-cotton jeans, the heavier the better for tear and burst resistance. But lighter fabrics can do as well as the heaviest all-cotton if they contain enough of the appropriate synthetic.

The same is true with abrasion resistance—the most important quality in determining the degree of success a boy will have in grinding away knees and seat against pavement, earth, fence rail, bicycle seat or tree trunk. In abrasion resistance, the durable-press blends did better, as a group, than the untreated fabrics, probably because the durable-press blends have a high ratio of synthetic fiber to cotton. Our tests indicate that an 11-ounce blend of cotton with about 20 per cent nylon or 50 per cent polyester will be about as durable as a 14-ounce all-cotton denim. Not unexpectedly, the only 10-ounce all-cotton jeans in this project came out lowest in our durability tests.

Although it's no longer generally fashionable for jeans

to fit as snugly as circus tights, their styling is narrow, and your son will probably want to buy them as small through the hips as his shape permits. Try to convince him to leave a little leeway for flexure and growth. But you needn't worry much about shrinkage. All but one of the tested models were preshrunk; they survived a series of machine washings and tumble dryings without shrinking unduly. The exception was the *Levi's 502-0117*, claimed to "shrink-to-fit." The *Levi's* shrank a bit more than other models, but it will stretch out again to the wearer's contours, providing that circus-tights look for those boys who happen to want it.

Of the dark-colored samples we tested, only the all-cotton jeans lost color to any appreciable degree in the wash, and that loss—almost entirely along creases and seam puckers—was due to abrasion rather than leaching. But all the dark-colored jeans did tend to turn wash water murky, so they should be separated from light-colored items. Although the jeans aren't likely to fade in sunlight or transfer much color to a sweating young athlete, the darker colors may tend to rub off onto other fabrics. Better keep youngsters in jeans—especially damp jeans—off light upholstery.

We put the conventional jeans through six washings and dryings. They tended to emerge from each cycle with all the puckered, wrinkled charm of a cloth prune. The durable-press models, on the other hand, came out looking quite presentable even after 15 launderings, a more severe test designed to see how their finish held up.

Many suppliers provided inadequate washday advice for their durable-press models. We therefore washed one set of jeans under the heavy-duty conditions suitable for conventional jeans—hot water with normal agitation and normal tumble-drying—and a second set in warm water with gentle agitation and tumble-drying at a wash-and-wear setting. All the durable-press dungarees came out a bit better-looking after the gentle treatment. But since they looked only slightly less pressed after even the severest washer-dryer settings, you can safely use such a setting for really dirty jeans; they will still look pretty good, and they will return to their better-looking condition if you give them the gentler, wash-and-wear treatment the next time they need laundering.

Whichever cycle you use, remove durable-press jeans from your dryer as soon as it stops, to keep any wrinkles from setting. For conventional jeans containing nylon, you can set your dryer at "regular," but keep the drying time as short as possible, and press the jeans with an iron set for "synthetic." Avoid wringers and bleaches.

The durable-press jeans typically emerged from the wash a lot more presentable-looking than the conventional models

The right size at the right price

You'll save yourself return trips to the store if you have your boy try on his jeans before you buy them. Jeans are sold by nominal-age size (for example, 0 to 20, for waist sizes from 18 to 30 inches) or by waist size (25 inches up to as much as 50 inches for men). Jeans sized by waist measurement are also usually labeled for inseam length. Remember, however, that Western jeans are meant to ride on the hip, so don't use the wearer's waist measurement as a guide to waistband size. Further, the actual waistband measurement for any given nominal-age size can vary from brand to brand.

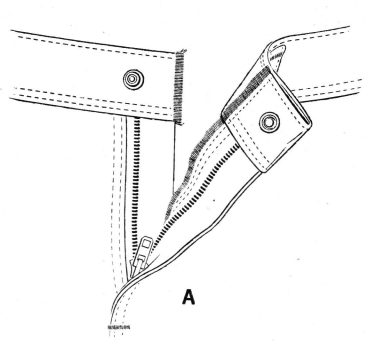
While the boy is trying on the jeans, have him jam his hands into the side pockets to test their roominess. And make sure there's a bit of room in the crotch. Also check some of the construction details shown on the opposite page.

Considering the speed with which an active, growing boy can consign a pair of jeans to the ragbag, it makes good sense to pay some attention to the prices given in the Ratings, especially since quality differences between closely ranked models were judged slight. Note particularly where the prices break. To cite one example: The seventh-rated *Mann Casuals* has a price break around sizes 6 and 7, the smaller sizes being 50¢ cheaper than the larger ones. If you're shopping for a small boy, a brand so priced could save you money over a brand similar in quality and basic price, that didn't cost less in the smaller sizes. Remember, too, the variation in measurements we mentioned. If your boy's size falls just on the high side of a price break in one model, he may be able to wear a smaller—and less expensive—size in another. In general, the durable-press models command a premium, but there are exceptions to that general rule in pricing. For example, the conventional *Lee Riders* are priced the same as the durable-press *Lee Prest.*

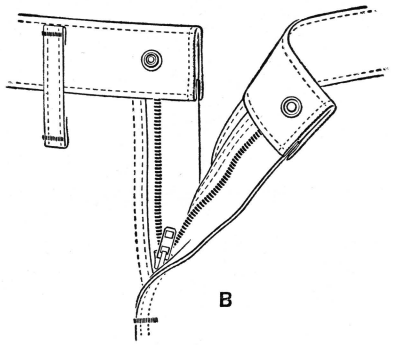
All in all, CU favors the durable-press models: They're generally more durable and easier to care for than the conventional jeans are. But they do have certain disadvantages that the others lack. For one thing, some boys

Continued on page 258

Choosing a well-made pair of jeans



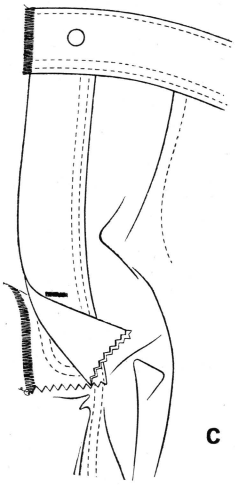
A



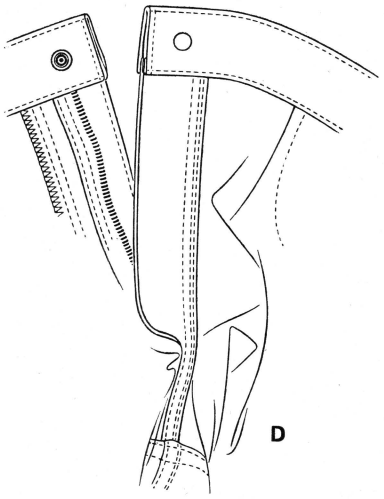
B

WAISTBAND. When you shop, give points to jeans whose waistband is joined to the body with multiple rows of stitching, as in sketch A. (In fact, look for double or triple seams wherever stress is likely—crotch, seat, outside and inside of each leg, and pockets.) But avoid waistband ends finished just with overcast stitching. The ends should be folded back, or each layer folded inward and stitched, as on B. Look for a double-layer band without vertical seams

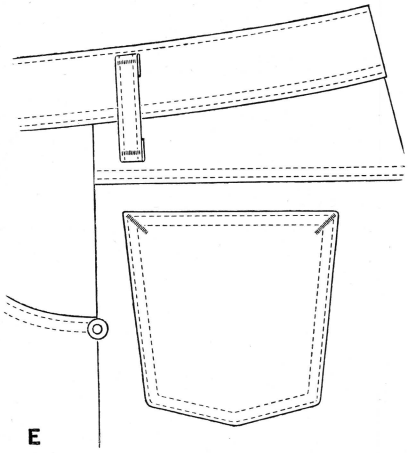
FLY ZIPPER. Have a look at the bottom of the zipper insert for raw edges (C); these are apt to be uncomfortable. The edges should be turned in and sewn down, as sketch D shows. The fly itself should be reinforced at bottom by two rivets or bar tacks. Look too for a self-locking pull tab and double-stitched zipper tape. And be aware that a ¼-inch-wide brass- or chromium-plated zipper track should stand up better than a narrower one or one made of aluminum



C

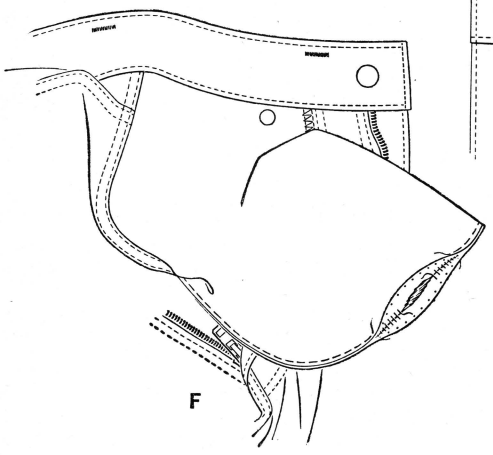


D

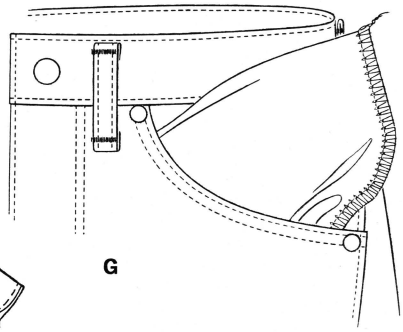


E

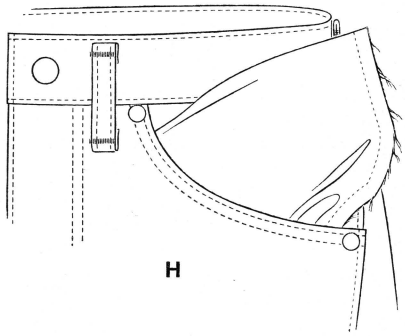
HIP POCKETS. Each end of the mouths should be reinforced with a firm bar tack of thread (see sketch E) or a rivet. A tug around the rivets should disclose sloppy insertions. While you're at it, check for asymmetrically fitted pockets



F



G



H

SIDE POCKETS. For maximum security, the side-pocket material should be stitched first at the bottom, then reversed and stitched to put the seam edges inside, and then sewn again, the last time through four fabric layers (as F shows). Also adequate, if not quite as good, is a single row of stitches with the cut edge covered by an overcast seam (G). We judged pockets without such overcasting rather prone to raveling, as shown in sketch H

may find them a bit clammy on hot days. More important, at least some of the various durable-press treatments can cause allergic reactions in certain people. If your son shows signs of skin irritation that you have any reason to suspect is from the finish, switch to another brand.

Unfortunately, that other brand may have the same finish and you won't be able to tell from the label, since there's no labeling requirement. We believe that the treatment on every durable-press garment should be identified. Then anyone who proved allergic to one type of treated fabric could try a different type without risking further discomfort, and without incurring the expense of a garment he can't wear.

RATINGS OF BOYS' JEANS

Listed in order of estimated overall quality, based on laboratory tests and judgments of durability and design features. Closely ranked models differed little in estimated overall quality, but differences between the high- and low-ranked models were substantial. Fabric composition, sizes (nominal age, except as noted), colors and prices are those given by the supplier.

All models are Western style, unlined, and have a 1-piece waistband; hemmed, 2-piece legs designed to be worn turned up; 2 side pockets and 2 hip pockets; and zipper fly with locking zipper. Except as noted, none shrank significantly in laundering. In most instances, only one model number or mail-order catalog number is given for each model; numbers may differ according to size, cut and color.

ACCEPTABLE

LEE PREST 181 (H. D. Lee Co., Shawnee Mission, Kan.). Sizes 6 to 12, regular, $3.98. 13 to 18, regular, $4.98. 50% cotton/50% polyester. **Durable press** (shape retention, good-to-very-good). Blue, faded blue.

WRANGLER 220-221 (Blue Bell, Inc., NYC). Sizes 6 to 12, regular and slim, $3.98. 13 to 18, regular and slim, $4.98. 50% cotton/50% polyester. **Durable press** (shape retention, good-to-very-good). Navy, black, pewter green, wheat, avocado.

BILLY THE KID WEARLON 2000 (Hortex, Inc., El Paso, Tex.). Sizes 6 to 12, regular and slim, $4.25. 13 to 16, regular and slim, and 27-in. to 34-in. waist, husky, $5. 50% cotton/50% nylon. **Durable press** (shape retention, adequate). Navy, loden, brown-and-white, blue-and-white.

WRANGLER 11 (Blue Bell, Inc.). Sizes 4 to 12, regular and slim, $3.50. 6 to 12, husky, and 13 to 18, regular and slim, $3.98. 14 to 22, husky, $4.50. 100% cotton. Navy.

LEE RIDERS 111 (H.D. Lee Co.) Sizes 6 to 12, regular, $3.98, 14, 16 and 18, regular, $4.98. 100% cotton. Blue.

BIG YANK SPURS Lot 12703 (Big Yank Corp., NYC). Sizes 4 to 12, regular and slim, $2.98. 8 to 24, husky, 14 to 20, regular, and 14 to 16, slim, $3.98. 50% cotton/50% polyester. **Durable press** (shape retention, good). Navy.

MANN CASUALS (TEX'N JEANS) KEEP-A-PRESS 23220 (Mann Mfg., Inc., El Paso, Tex.). Sizes 2 to 7, regular and slim, $3.50. 6 to 16, regular and slim, $4. 28-in. to 34-in. waist, husky, $5.00. 65% cotton/35% polyester. **Durable press** (shape retention, good-to-very good). Navy, faded blue, loden.

WARDS BRENT Cat. No. 33 (Montgomery Ward). Sizes 6 to 18, regular, and 6 to 12, slim, $3.29 plus shipping. 10 to 18, husky, $3.79 plus shipping. 75% cotton/25% nylon. **Durable press** (shape retention, good). Navy, faded blue, loden green, sand.

RODEO X-PRESS 4532 (Hicks-Ponder Co., El Paso, Tex.). Sizes 6 to 16, regular and slim, $3.98. 8 to 20, husky, $5. 60% cotton/40% nylon. **Durable press** (shape retention, adequate). Blue, loden, brown.

FARAH SUPER GOLD STRIKES FARAPRESS 9750 (Farah Mfg. Co., Inc., El Paso, Tex.). Sizes 6 to 16, regular and slim, $4.50. 26-in. to 36-in. waist, husky, $5.00. 62% cotton/38% nylon. **Durable press** (shape retention, good). Blue, char-black, olive.

LEVI'S 361-26 (Levi Strauss & Co., San Francisco). Sizes 2 to 12, regular and slim, $3.98. 14 and 16, regular and slim, and 25-in. to 36-in. waist, husky, $4.98. 50% cotton/50% polyester. **Durable press** (shape retention, good). Blue. Available with white or orange stitching.

PENNEYS RANCHCRAFT Cat. No. 425-1716 (J. C. Penney). Sizes 6 to 18, regular, slim and husky, $2.94 plus shipping. 83% cotton/17% nylon. Blue.

PENNEYS RANCHCRAFT PENN-PREST Cat. No. 425-1005 (J. C. Penney). Sizes 8 to 18, regular, slim and husky, $2.94 plus shipping. 50% cotton/50% polyester. **Durable press** (shape retention, good). Navy, black, pewter, faded blue, loden, sand, brass, antelope.

LEVI'S 502-0117 (Levi Strauss & Co.). Sizes 0 to 12 regular, $4.29. 27-in. to 50-in. waist. $5.39. 100% cotton. Dark blue. Not preshrunk ("shrink-to-fit").

DICKIES SHAPE-SET RL998 (Williamson-Dickie Mfg. Co., Ft. Worth, Tex.). Sizes 0 to 16, regular and slim, $3.98. 50% cotton/50% polyester. **Durable press** (shape retention, adequate). Loden, black, wheat, faded blue (sizes 0 to 12).

SEARS PERMA-PREST Cat. No. 48356 (Sears, Roebuck). Sizes 6 to 12, regular and slim, and 25-in. to 30-in. waist, $2.97 plus shipping. 6 to 12, husky, and 31-in. to 34-in. waist, $3.97 plus shipping. 50% cotton/50% polyester. **Durable press** (shape retention, good). White. black, olive, blue.

BIG YANK SPURS Lot 16630 (Big Yank Corp.). Sizes 6 to 18, regular, $3.98. 100% cotton. Black, loden, light blue, wheat, brown.

PENNEYS RANCHCRAFT Cat. No. 425-0007 (J. C. Penney). Sizes 6 to 18. regular, slim and husky, $2.69 plus shipping. 100% cotton. Blue.

WRANGLER 117DK (Blue Bell, Inc.). Sizes 2 to 12, regular and slim. $3.50. 13 to 18, regular and slim, $3.98. 83% cotton/17% nylon. Navy.

SEARS CIRCLE S RANCH Cat. No. 48179 (Sears, Roebuck). Sizes 6 to 12, regular, slim and husky, $2.47 plus shipping. 14, 16 and 18, regular and slim, $2.67 plus shipping. 14, 16 and 18, husky, $2.97 plus shipping. 100% cotton. Blue.

FARAH GOLD STRIKES 950 (Farah Mfg. Co., Inc.). Sizes 2 to 12, regular and slim, $3.50. 13 to 16 regular and slim, and 26-in. to 36-in. waist, husky, $4.00. 88% cotton/12% nylon. Blue, char-black, olive.

BILLY THE KID 91381 (Hortex, Inc.). Sizes 6 to 12, regular and slim, $3.25. 13 to 16, regular and slim, and 27-in. to 34-in. waist, husky, $4. 100% cotton. Navy, loden (sizes 6 to 12; 13 to 16, regular; 27-in. to 34-in. waist), coffee (sizes 6 to 12; 13 to 16, regular).

Station Wagons

Plymouth Satellite · AMC Rebel 770 · Ford Fairlane 500 · Chevelle Malibu · Olds Vista-Cruiser

As we noted in our February report on intermediate-sized sedans, the manufacturers' advertising and promotional efforts have pushed the intermediates hard—and they've particularly emphasized those fastback hardtop rallye-striped pseudosupercar versions.

But Detroit still turns out about 10 per cent of its total production in the form of that prosaic family workhorse, the station wagon. For this report we've tested four intermediate wagons—the *Plymouth Satellite, AMC Rebel, Ford Fairlane* and *Chevrolet Chevelle.* We also tested an *Oldsmobile Vista-Cruiser,* a "stretched" intermediate that General Motors chooses to call full-sized (it's "full length" and "full-priced"—but not full-sized).

In theory, at least, the intermediate wagons should have a good deal to offer. They do not have the huge exterior bulk of the full-sized models, are less prone to tail-wag, have only about 10 cubic feet less of cargo volume, cost about $120 to $340 less, and should be more economical on fuel costs.

Unfortunately, some of the intermediate wagons don't have what should be the prime attribute of a station wagon —the ability to carry a full load without causing discomfort to occupants. Of the five tested station wagons, only the *Plymouth Satellite* and the *AMC Rebel* were competent full-load carriers.

It is possible that your choice of a wagon may be based on other use patterns, such as light hauling or shopping trips, in which case one of the other tested intermediate wagons, or their siblings (see box, page 260) may suit your needs. Or if you're looking for a roomy turnpike traveler, the *Oldsmobile Vista-Cruiser* might interest you despite its relatively high price.

The *Vista-Cruiser,* and its near-twin, the *Buick Sportwagon,* are in essence long squarebacked sedans best suited to carrying passengers on smooth highways. The *Vista-Cruiser* is built on lines suggestive of a Greyhound Scenicruiser bus, with a stepped-up, glassed-in rear roof section. The *Vista-Cruiser* is as long, both inside and out, as most full-sized wagons, but it's considerably less wide inside, and it's no match for a full-sized wagon when it comes to a comfortable ride under full load.

To see how the *Vista-Cruiser* stacked up against truly full-sized wagons in some aspects of ride and handling, we check-tested 1968 *Ford, Plymouth* and *Chevrolet* full-sized V8 wagons. All three of them exhibited noticeable tail-wag, to about equal degree. (The *Chevrolet* has improved; the tail-wag was nowhere near as severe or as cumulative as we found it last year, when we rated the wagon Conditionally Acceptable. But the *Ford* was free of the malady last year, and the *Plymouth* afflicted only slightly.) Tail-wag on the *Vista-Cruiser* was well below the levels found on the full-sized 1968 wagons. On the other hand, the full-sized wagons provided a significantly more comfortable ride when fully loaded than the *Vista-Cruiser* did.

Comparably equipped, all three truly full-sized wagons list for $100 to $150 less than the *Vista-Cruiser* (the difference is even greater when you compare prices of the least expensive version of each). They may actually sell, because of a different discount structure, for about $200 to $250 less. That comparison includes the power-disk-brake option on the *Ford* and the *Plymouth* full-sized wagons (we had some braking problems when we tested them last year and suggest disk brakes on these full-sized wagons).

Capacity and comfort vary widely

At our Auto Test Center we measure each car's interior accommodations and cargo-area dimensions, and ask each staff member (ranging from a 6-foot-4-inch 210-pounder to a 5-foot-3-inch 115-pounder) to judge comfort in passenger seats and behind the wheel. We check particularly for convenient entrance and exit, for ease of loading, for a driver position that affords satisfactory control and for seats built to minimize fatigue.

The cubic footage of cargo volume available in a station wagon is somewhat less important than certain critical body dimensions. It's impossible to fill all the cargo space

INTERMEDIATE WAGONS: 9 (COUNT 'EM) 13

Several of the station wagons listed in the table below are not what their manufacturers have chosen to call them. The *Ambassador*, which AMC calls a full-sized wagon, is a twin of the intermediate *Rebel* except for such superficialities as details of trim and styling. It has five inches more overall length but no more interior space. It's also slightly more expensive.

Ford chooses to call its *Falcon* a compact, though it fully qualifies as an intermediate and is, indeed, somewhat larger in a couple of important dimensions. We tested the *Falcon* last year but not this. Comparably equipped, it's $150 to $200 less expensive than the *Fairlane/Montego* V8 wagons. We recommend a V8 engine for the *Falcon*; this year's Ford 200-cubic-inch Six is seriously underpowered, in our opinion.

The *Buick Sportwagon* and *Olds Vista-Cruiser*, which GM calls full-sized wagons, are really "stretched" intermediates—full-sized only in name, price, and length inside and out. Most of their interior width dimensions are very close to those of the *Chevelle* and the other GM intermediates listed below.

There is, by the way, only one true compact wagon left, the *Rambler American*. Equipped with a six-cylinder engine (which powers it amply for family use, in our opinion), automatic transmission and nonpower steering, the *American* lists at about $2600—$400 less than the least-expensive *Falcon* and nearly $700 less than the top-rated *Plymouth Satellite* V8. But most of the *American's* interior dimensions are so much smaller than the intermediates' (it's at least 20 cubic feet less roomy) that unless low price and small exterior size are overriding considerations, and ample space for hauling loads is not one, we recommend an intermediate.

To sum up: There are nine intermediate wagons that are *called* intermediates, and there are four wagons that are really intermediates but are called something else. Keep in mind that the models grouped together—the four GM intermediates, for example—are alike in most respects, differing primarily in trim and styling details. Which one you choose is really only a matter of which name you like best and whether you can get a better deal and better service on one than on another.

1968 station wagon body dimensions

All dimensions were measured by CU with the front seat in its rearmost position; all (except cargo volume) are rounded to the nearest half inch.

	Overall length	Cargo volume (cu. ft.) [A]	Floor length behind front seat	Top of front seat to top of tailgate	Top of rear seat to top of tailgate	Effective width of rear opening at floor	Effective width of rear opening at top	Width between wheel housings	Width of body at second seat	Maximum height of rear opening	Interior height at rear axle	Under-floor storage space [B]	Fuel tank location
Compact wagons													
RAMBLER AMERICAN	181	61	74.0	66.0	37.5	50.5	42.5	41.0	53.5	26.0	30.0	None	Under floor
Intermediate wagons													
AMC REBEL; AMC AMBASSADOR [C]	198; 203	82	91.0	80.0	46.5	53.5	42.5	45.5	59.0	27.5	30.0	Small	Under floor
BUICK SPECIAL; CHEVROLET CHEVELLE; OLDS F-85; PONTIAC TEMPEST	209; 207; 206; 211	80	90.5	80.0	48.0	44.0	37.0	44.0	55.5	28.5	31.0	Large	Left-rear fender
DODGE CORONET; PLYMOUTH BELVEDERE/SATELLITE	210; 208	82	92.0	82.0	47.0	48.0	43.0	45.0	56.0	29.5	31.0	Small	Under floor
FORD FAIRLANE; MERCURY MONTEGO	204; 204	83	87.5	76.5	43.5	45.0	45.5	43.0	57.5	29.0	32.5	Large	Left-rear fender
FORD FALCON [D]	198	84	87.0	76.5	43.5	49.0	45.5	44.0	57.5	29.0	33.0	None	Under floor
Full-sized wagons													
BUICK SPORTWAGON; OLDSMOBILE VISTA CRUISER	214; 218	89	94.5	84.5	52.0	44.0	37.5	44.0	55.0	28.0	33.0	Medium	Left-rear fender
CHEVROLET	214	90	95.0	86.0	48.5	48.5	44.0	48.0	61.5	28.0	29.5	Large	Left-rear fender
FORD; MERCURY	214; 216	89	91.5	80.5	47.5	48.0	44.5	48.0	59.5	29.0	32.0	Large	Left-rear fender
PLYMOUTH; DODGE; CHRYSLER	216; 220; 220	95	94.5	86.5	50.0	45.5	48.0	46.0	60.0	29.0	31.5	Large	Left-rear fender
PONTIAC	218	91	93.5	85.0	51.0	48.5	44.0	48.5	61.5	28.5	30.0	Large	Left-rear fender

[A] *Calculated from the following dimensions: top of front seat to top of tailgate; width of body at second seat; interior height at rear axle.*

[B] *Large: one two-suiter and one weekend case or more. Medium: one two-suiter. Small: one weekend case or less.*

[C] *Ambassador is sold as a full-sized wagon but is listed with intermediates because it shares its station-wagon body with Rebel.*

[D] *Falcon is sold as a compact but is listed with intermediates because it shares its station-wagon body with Fairlane and Montego.*

without seriously overloading the vehicle or blocking the view to the sides and the rear. Such dimensions as the size of the rear opening and the linear measurements of the cargo space (length from the backs of the first and second seats to the tailgate; width of body at second seat and between wheel housings) are better measures of the usefulness of a wagon as a cargo hauler.

The tailgate opening of the *AMC Rebel*, for instance, measures a wide 53½ inches across at the floor; the *Oldsmobile Vista-Cruiser's* opening is only 44 inches across. None of the tested models would carry a 4x8-foot sheet of plywood flat; only the *Chevrolet/Pontiac* and *Ford/Mercury* full-sized wagons will carry a four-foot-wide object flat on the floor.

If you call on one of the tested wagons to carry bulky objects, you may be in trouble. Tables, desks, bureaus and dressers higher and wider than 29½ inches won't fit into any of these wagons. The *Dodge/Plymouth* rear opening, at 29½ inches, is the highest of those on any current station wagon.

The *Vista-Cruiser* has the longest cargo-carrying area—84½ inches from the top of the front seat to the top of the closed tailgate. (The *Fairlane* offers eight inches less space there.) Of the tested wagons, the *Vista-Cruiser* is by far the longest vehicle—from 10 to 20 inches longer than other wagons. That makes it the most difficult to park and maneuver.

CU bought the three-seat version of the *Vista-Cruiser*. The others were tested in their two-seat versions, since two-seaters outsell three-seaters in the intermediate price class. Third seats usually rate poor on CU's comfort scale; the *Vista-Cruiser's* certainly did. The space available is extremely limited, and the very presence of the seat reduces the possible underfloor storage area.

The front seats in a station wagon are like a sedan's in size, and all of our test wagons except the *Chevrolet Chevelle* had front seats that rated fair-to-good in comfort. The *Chevelle's* front seat lacked support under the driver, and the cushion and seat back fell away toward the door on the driver's side.

The second seats of all five wagons received an overall rating of fair. But the *Chevelle's* leg and knee room was limited, and the *Ford Fairlane's* seat cushion was only 48 inches side-to-side—an intimate fit for three adults. Head room in the second seat was ample—at least as much as that in a *Cadillac*, and in three of the wagons, more.

The second seats folded easily enough on all but the *Rebel*. The *Rebel* takes extra effort because the folding mechanism lifts the seat cushion and moves it forward as the back is folded down. And if you leave the seatbelts lying across the cushion, as is natural, they drag and bind a bit and make the job even harder. On the *Vista-Cruiser*, the linkage for folding part of the second seat to gain access to the third seat frayed one of the seat belts nearly in half.

With the second seat folded, the *Rebel's* front seat lost about an inch and a half of rear adjustment—a disadvantage for taller drivers. Foot controls were comfortably located on all but the *Chevelle*. Its pendant accelerator pedal was mounted too far forward for comfortable driving.

Handling: Not much tail-wag

We take each car over a selected 20-mile circuit of roads ranging from smooth, level highway to "washboard" roads and broken and bumpy pavements. In the course of this ride test, we evaluate the car's general stability and its response to lane-changing maneuvers when both lightly and fully loaded. Then, on the test track, we drive it through a series of right- and left-hand turns to evaluate its response, when lightly loaded, to steering and throttle changes at critical speeds. A car should behave stably and predictably during maneuvers at higher speeds; response to the steering wheel in both normal driving and emergency situations should be quick, controllable and completely predictable, and should require no undue effort.

The manufacturer's maximum rated load of these tested wagons is 1200 pounds, a mere 100 pounds more than for a sedan. That would roughly equal the weight of six average-sized adult passengers plus about 300 pounds of cargo, or two passengers and 900 pounds. You may find it all too easy to stuff heavy boxes, books and the like into the roomy wagon interior without realizing how much the load is getting to weigh. And that convenient roof rack (standard on our *AMC Rebel*, available for about $45 on the rest) can take on hundreds of pounds more cargo before you know it.

What can happen? Overloaded tires plus a severe weight imbalance at the rear may result in handling problems at highway speeds.

The Facts and Figures on page 267 show significant minus numbers for the rear tires on two of the five wagons when they're under full load but inflated to the manufacturer's recommended tire pressures for *light* loads. (The manufacturers recommend a single tire pressure for all load conditions for the *Fairlane* and *Vista-Cruiser*, and it is sufficient to carry the maximum load.) If you inflate the *Rebel* and *Chevelle* tires to pressures recommended for *full* loads, you're out of trouble. But CU feels that owners may sometimes neglect to do that. We suggest that any station-wagon owner inflate his tires to the maximum-load pressure, taking special care to rotate them (they wear unevenly). That's one way to avoid the ill effects of overloaded tires, though the lightly-loaded ride may be a bit harsher. For the *Rebel*, you would also be wise to buy oversized tires, whose light-load pressure would be sufficient for maximum loads as well. Oversized tires are not available for the *Chevelle*.

Of the wagons classed as intermediates, only the *Plymouth Satellite* and *Ford Fairlane* showed signs of tail-wag—a transient overswinging of the rear end during, for instance, lane-changing on a turnpike or a quick avoidance maneuver. We considered neither wagon inherently unstable; there was no repeated oscillation of the rear, and those two wagons settled easily into a new lane without requiring undue steering corrections. The *Rebel*, *Chevelle* and *Vista-Cruiser* had no stability problems.

In normal driving around town and over rural roads

at low speed, all four intermediates handled well. Under such conditions, though, the *Plymouth Satellite's* power steering responded a bit too quickly and gave too little feel of the road. This car's power assist is still a plus, however; the *Satellite* was by far the best-handling car at high speeds; we could control it easily and precisely.

The *Rebel* at high speeds resembled other AMC cars we've tested; it took a lot of wheel-winding to negotiate turns. The *Rebel* behaved predictably, however, and would hold a steady line through the turns.

When we cornered the *Fairlane* and the *Chevelle* hard at high speeds, both understeered to begin with. Then, the front tires lost some of their bite and the moderate understeer increased quickly to *considerable* understeer. Their front ends tended to slide outward on a tangent unless we turned much more sharply into the turn. That somewhat unpredictable behavior led to an overall rating of fair for both cars.

The *Vista-Cruiser* tended to plow ahead, as the *Rebel* had, requiring the driver to wind the wheel further and further into a high-speed turn. But around town and on rural roads at lower speeds, the car steered and handled well, earning a rating of fair-to-good.

Ride: Two carry their loads well

We make two trips around our 20-mile road circuit, once with the car lightly loaded, once loaded to the manufacturer's maximum-load specifications. A good-riding car minimizes or softens ride motions and insulates the passengers from undue road and engine noise. The suspension should allow no undue rolling from side to side, pitching from end to end, or abrupt topping or bottoming (reaching the upper or lower limits of the suspension). It also should provide ground clearance sufficient to prevent damaging contact between the underbody and the road.

Lightly loaded, our four intermediate wagons rode as comfortably over CU's ride-test roads as most sedans. The *Plymouth Satellite, AMC Rebel* and *Ford Fairlane* earned a rating of good; the *Chevrolet Chevelle* was judged fair-to-good.

When they were loaded to rated capacity, it was a different story. Only the *Satellite* and *Rebel* competently insulated occupants from unpleasant motions at controlled speeds over bumps. The *Fairlane* wagon frequently brought its passengers to a quick downward stop as its rear suspension bottomed firmly over secondary roads. The *Chevelle* wagon rode even worse, with quick upward tosses and some side-to-side jostling. On both the *Chevelle* and the *Fairlane*, the front frame cross-member hit the road surface over a large bump—but without appreciable damage.

The *Oldsmobile Vista-Cruiser* further revealed its intermediate lineage by matching the ride behavior of our *Chevelle* wagon, which cost nearly $1000 less. There was plenty of suspension travel available, but poor shock-absorber control resulted in motions that were too large and too frequent for comfort. Over washboard-surfaced roads or small bumps, there was considerable front-fender and hood shaking.

Braking: All had some faults

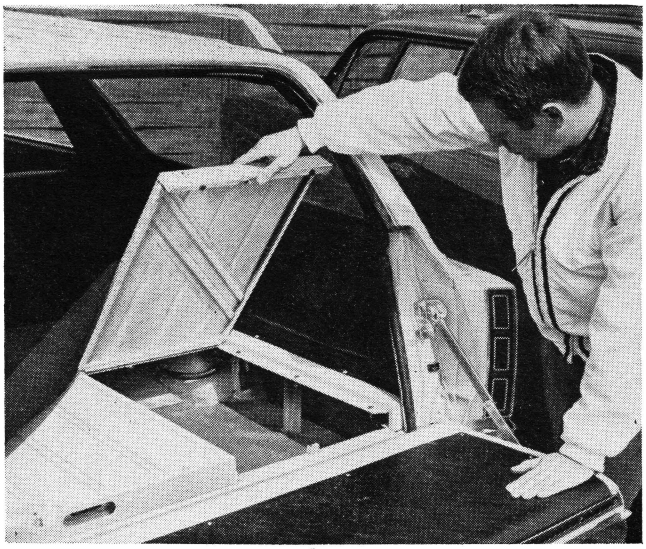
We measure the effectiveness of the brakes in response to increasing pedal effort (measured in pounds); we also make several controlled stops from 60 mph in order to determine the minimum distance required. The stops should be controllable and free of swerving. Braking should progress smoothly and without erratic wheel locking. Brakes tend to fade when they're applied repeatedly in a short space of time, requiring more pedal effort to achieve the same deceleration. We test for fade by making a series of moderate stops from 60 mph at intervals of a third of a mile. Fade should be minimal, and recovery from fade should be relatively quick.

We bought our *Ford Fairlane* and *Olds Vista-Cruiser* with power-assisted brakes. The *Olds* had drum brakes all around. The Ford had disks on the front wheels, drums on the rear. At $65, that is the only power-brake option currently available on *Fords*. We've concluded that the standard nonpower drums on the *Fairlane* wagon should perform about as well as the nonpower drums on its near-twin, the *Mercury Montego*. (We rated the *Montego's* brakes fair-to-good when we tested them on a sedan in February.) The other three wagons were purchased with nonpower drums.

The *Fairlane's* front disk brakes proved almost fade-free, and they stopped the wagon straight every time. But the power booster was unusually sensitive for light stops. It took only four pounds of effort for a light (2/10 g) stop instead of the 30 pounds CU prefers. (For moderate or high decelerations, the pedal effort was more in line with good practice.) During winter driving on slippery surfaces, we lost steering control when, with light decelerations, the front disks locked before the rear drums. It might happen to you on an icy day if you tried to brake while negotiating a curved downhill driveway slowly. Actually, the phenomenon can occur on any disk-front/drum-rear car. Oversensitive power boosting only aggravates the condition. Once again we urge Ford—and other manufacturers who tend to set their power-brake boost too high—to make widely available to car owners any device or bit of technical know-how that will bring the brakes down to a sensible level of pedal effort.

Braking performance of our *Olds Vista-Cruiser* was rated fair-to-good overall, with moderate pedal effort and little fade.

Of the nonpower drum brakes, the *Plymouth Satellite's* were the best—generally smooth, progressive and nearly fade-free. The *AMC Rebel's* braking was also progressive, and all stops were straight. But the brakes did fade. The tenth of our quickly repeated test stops took 45 pounds more of pedal effort than the first did, and overall pedal effort was somewhat high. The *Chevelle* also had fade problems, and overall pedal effort was even higher than on the *Rebel*. Power brakes ($42) would be a useful option on the *Chevelle*.



Fuel tanks are located either under the rear floor or in the left-rear fender. Fender tanks are vulnerable in a sideswipe, but they do leave additional space for under-floor storage, as witness the Chevelle's space (left) compared wtih the Rebel's

Performance: Not many differences

CU's test drivers break in each engine by driving the car over normal roads for a minimum of 2000 miles, familiarizing themselves with its performance in normal use. Next we measure fuel consumption on a level road. Then, at a sports-car track in Connecticut, drivers test each car's acceleration and passing ability (listed in Facts and Figures, page 267). A car's engine should start readily and run smoothly; acceleration should be predictable and quick enough for reasonably safe entry onto freeways and for safe passing; the engine's response to the accelerator pedal should be smooth and progressive.

We bought our *Olds Vista-Cruiser* with a 400-cubic-inch regular-fuel V8 ($63 extra) and recommend it over the standard 350-cubic-inch V8. The larger engine's extra bit of power may be useful. Both engines use the smooth-shifting and versatile three-speed Turbo Hydra-Matic transmission and come in regular-fuel and premium-fuel versions. We see no need to buy the premium-fuel engine.

For the four intermediate wagons, we bought the smallest available V8s, which provide enough power to meet our conception of normal family use; more powerful engines might be preferable for sustained heavy-duty use, such as towing a big boat or a trailer.

Our *Vista-Cruiser* accelerated smoothly and powerfully, and somewhat faster than any of the four intermediates, as a glance at the Facts and Figures will show. The Facts and Figures also show that there was little to choose in acceleration performance among the four intermediates. The *Plymouth Satellite* had a slight edge in fuel economy. At low speeds and in traffic, the heavier and more powerful *Vista-Cruiser* used substantially more fuel than the other intermediates did; but note that its gas mileage at high turnpike speed (a constant 70 mph) was comparable to theirs.

The *Chevelle* still comes with GM's two-speed Powerglide automatic transmission, which is simply not as versatile as a three-speed; it provides only one choice of downhill holdback ratios and no kickdown for passing at speeds over 55 mph.

During the winter the *Vista-Cruiser's* engine started and stayed running acceptably. The other four suffered in varying degrees from the balkiness we've encountered in the engines of most of our 1968 cars—largely due, we believe, to the inept way the manufacturers have made modifications to meet Federal regulations limiting amounts of carbon monoxide and unburned hydrocarbons in engine exhaust.

Controls: Up to this year's par

Instrument-panel controls on all five wagons were labeled as required, generally well placed, and easy to operate and distinguish by their function. A notable exception: *AMC Rebels* with standard vacuum wipers have adjacent and identical push-pull knobs for lights and wipers; you might easily put your lights out when intending to shut off your wipers. *Ford Fairlane's* lighted label strip, which identifies all important control functions, was difficult to read by day but fine at night. And we had the same difficulty operating *Chevelle's* super-recessed controls that we've had with other 1968 *Chevrolet* cars. On Chrysler Corp. intermediate wagons with the optional tailgate window washer, an identical tailgate washer control is adjacent to the windshield washer control. You could wash the wrong glass—a minor annoyance.

Our *Plymouth Satellite* was equipped with one of those tailgate washers (it cost $40), and we found it about the neatest trick of the year—invaluable in foul weather, when a wagon's rear window tends to cloud over completely after a few miles at high speed. You just lower the *Plymouth's* power rear window, press the wash button, and raise the

window again. A set of washer jets and squeegee blades inside the tailgate housing clean most of the window.

Ford Falcons and *Fairlanes* of 1967 vintage and those built up to January 1, 1968, have padded windshield pillars. Our 1968 *Fairlane* did. But currently produced *Fairlanes* may not include that padding, presumably because the Federal Motor Vehicle Safety Standards do not require it. Ford also announced that it would remove padding from the upper edges of the second-seat backs in its station wagons built after January 1. But, Ford recently told CU, the company has reconsidered and will continue to provide it.

Even with second-seat backs as well padded and cargo areas as smoothly contoured as they were on our *Ford*, *Chevelle* and *Vista-Cruiser*, your children should not be allowed to ride unrestrained in the cargo area. A crash or a sudden stop at high speeds turns loose children into projectiles, as anyone who has seen the UCLA crash-test movies can testify. Some of them show unrestrained child-sized dummies bouncing around car interiors like crumpled beach balls. Keep children buckled firmly in the second or third seat. For children under about 50 pounds, you might investigate one of the new child safety restraints. Babies are far better off, of course, in a padded, strapped-down car bed than they are loose in the back or lying on the seat.

AMC Rebel and *Plymouth Satellite* second-seat backs lack the padding found in the others. And the area behind the third seat in the *Vista-Cruiser*—just the sort of place a child will choose if he is unrestrained—is quite hostile. The seat back is of hard metal, the upper edge is hard and sharp, and two hard steel handles protrude into the area.

Another potential hazard threatens tall adults sitting in the *Vista-Cruiser's* second seat. The head of a six-foot man will just about touch one of a pair of steel mounting blocks for the second-seat sun visors directly over his head. Unbelted, he could be tossed up into the block as the wagon traversed a sizeable bump.

Station-wagon tailgates and tailgate windows present a unique ventilation hazard. If either is open (even an inch for the window), you get a suction effect that may draw in exhaust from your own engine or, worse, the exhaust-laden ground layer from preceding vehicles in heavy traffic. Engine exhaust contains carbon monoxide (CO), the "silent killer"; high enough concentrations can bring on drowsiness, which in turn can lead directly to an accident.

CO is odorless, but fortunately other products of combustion that occur in combination with it do have a familiar odor. If you should ever smell exhaust in your wagon, ventilate the interior with fresh air immediately by opening the cowl vents and, if necessary, reversing the vent windows.

As noted in the dimensions table, *Satellite* and *Rebel* wagons carry their fuel tanks centrally under the cargo floor, where they are less prone to damage in a sideswipe than the more vulnerable left-rear-fender tanks in the other three cars. Fender tanks allow for more underfloor storage space, but we prefer the safer approach.

AMC Rebel wagons this year have the very desirable flush outside door handles we noted on our test *Ambassador* sedan. They're not apt to hook a pedestrian's clothing or release the door latch inadvertently in a rollover accident. On the debit side, AMC cars for some years have had outside mirror mountings that come to a forward-thrusting point; we've mentioned them several times in these pages. CU wonders whether they do not constitute a violation of Federal Standard 111, which reads in pertinent part: "The

The station wagon as a breed

The station wagon is an elongated body on a modified passenger-car chassis, changed to provide an adjustable cargo space that makes it an adaptable family and load carrier. As a breed, the wagon offers cargo space without being wider or more than a few inches longer overall than its sedan counterpart. Most three-seat wagons carry eight passengers in varying degrees of comfort. Few of their second seats are as comfortable as the front seat. Getting into most third seats is something of an athletic feat, and riding in them for long becomes, for adults at least, a miserable experience—whether the seat faces forward, backward or sideways.

The wagon's load-carrying facilities range from nooks and crannies around and behind the seats and under the floor to, in the largest, a 4x8-foot flat expanse from front seat to tailgate when the seats are folded (see the dimensions table, page 260). A wagon is practically a sunporch on wheels, so visibility all around is excellent for both maneuvering and sightseeing. Station wagons are generally noisier and harder to heat evenly than sedans. On the other hand, they're quieter, more comfortable, better-riding and safer than the buswagons we've tested in the past.

Station wagons are usually priced about $300 higher than their sedan counterparts. And wagons usually depreciate more in dollars than their sedan counterparts during their first two years of life. Being heavier and, in some cases, equipped with a more powerful standard engine, station wagons by and large use significantly more fuel than sedans.

The wagon, with its spacious cargo area and, if you should order one, a supplementary roof rack, is easy to overload; the left-rear fender fuel tanks on many wagons are a potential fire hazard in a sideswipe; and a tendency to tail-wag, particularly if the load is concentrated in the rear, is characteristic of several full-sized wagons. Tail-wag is not, however, as serious a problem this year as it has been in the past.

But despite its drawbacks, the station wagon is the closest thing around to all-purpose family transport.

mirror and mounting shall be free of sharp points or edges that could contribute to pedestrian injury."

Although no Federal Safety Standard requires double latches on wagon second-seat backs, CU considers that feature important in restraining heavy objects in the cargo area during a hard stop or a front-end collision. Only the *Rebel* had double latches, but the one on the left side of our car could be jerked loose by simple hand pressure. The *Satellite* had a single central latch that locked the seat back to its folding floor panel, forming a rigid assembly of four links. That arrangement was judged far more resistant to impact than the single latches at one side on the *Chevelle* and *Fairlane* or the faulty arrangement in the *Rebel.*

Defects: The art of partial assembly

We again found the cars to have a great many defects. We usually describe a few such defects, but it seems pointless to list them all because they're not likely to be the same ones you may encounter in your new car. Nor would the number of defects in a test car indicate the number you might expect if you bought the same model. But the overall industry record shows that you're likely to find far too many for a product as expensive as an automobile. (We do correct any nondesign defect that could affect test results before we start testing.)

This year's *Chevrolet Chevelle* wagon, for example, had the longest list of serious problems we have recorded in any car *ever.* Soon after delivery we noticed that a bolt on the steering idler arm was wearing a hole in the lower radiator hose. The car's starter gearing was defective and had to be replaced. Its Powerglide transmission valving had to be rebuilt twice to get an automatic upshift from low and provide a reliable kickdown back into low for passing. The speedometer consistently read 10 mph too slow and was replaced. There were 30 other defects and deficiencies.

Our *Rebel* wagon sample spilled a bit of fuel from the tank-filler overflow drain when we negotiated hard right-hand turns. But the spillage was not judged serious. Engine carburetion was sufficiently unpredictable to cause frequent stalling, especially during warmup. The right front shock absorber clanked loudly against the antisway bar on full-wheel rebound. Other ominous noises: The transmission clunked heavily on a closed throttle downshift from third gear to first; the engine fan whirred annoyingly above 50 mph; the tailgate rattled. Twenty-four other deficiencies annoyed our engineers. The *Rebel* also had AMC's typical "fast" throttle linkage; a "fast" throttle linkage means that a very small depression of the pedal evokes a very large response—you usually get off to a jerky start.

The top-rated *Satellite* wagon chalked up 24 defects and deficiencies. As with most Chrysler Corp. products we've tested recently, body and trim flaws were numerous. More serious was a crack in the top half of the fuel tank that leaked gasoline when the tank was full. We had to have the seam welded shut. The car was delivered with a faulty voltage regulator; the battery rapidly went flat from lack of recharging. And choke and carburetion problems led to frequent flooding, stalling and hard starting.

Contortionists and children will find getting in and out of the Vista-Cruiser's third seat easy enough. Others won't

Our *Ford Fairlane* wagon exhibited only 18 relatively minor defects. Ford's new starter-blocking switch requires rigid mounting of the steering column and precise switch adjustment. Our *Fairlane's* steering column was not firmly mounted, and we had trouble getting the car to start in "Park." Engine carburetion seemed especially lean this year; our engine surged noticeably at light-to-moderate throttle openings. That, combined with the *Fairlane's* hard-to-modulate pendant accelerator pedal, made driving a somewhat jerky affair.

We recorded 25 minor but bothersome defects and deficiencies in our test *Vista-Cruiser.* Most notable were water leaks from the roof glass, faulty front-end alignment and incorrect engine timing.

To sum up

The *Plymouth Satellite/Dodge Coronet* twins rate top billing in the intermediate wagon class because of their clear superiority in all rated categories. The ability to carry full loads and provide riding comfort at the same time is the most important plus in favor of those Chrysler Corp. wagons. A fairly noisy ride gives the occupants the impression that the car is crudely constructed—unfortunate on a vehicle otherwise so competent. The *Satellite's* better-than-average Frequency-of-Repair record rounds out the picture.

The *Rebel* and *Fairlane* wagons were just about neck-and-neck for second place. *Rebel's* strong points are its spacious passenger accommodations, sedan-like lightly loaded ride and reasonably predictable handling. *Fairlane*

excels in the braking department and offers a better Frequency-of-Repair record than the *Rebel*. The cargo capacities of the two are very similar: The *Rebel* has the advantage in width, the *Fairlane* in rear-opening height.

We judged the *Chevrolet Chevelle* of lowest quality among the tested intermediate wagons. It's a poor full-load carrier, and its seats are only fair in comfort. It handles fairly unpredictably, has only fair brakes and continues to offer a worse-than-average Frequency-of-Repair record.

As for the *Oldsmobile Vista-Cruiser*, whether you call it an intermediate or a full-sized wagon, it still does not competently carry a full load. But you do get a unique-looking wagon for the extra money.

RATINGS OF STATION WAGONS

Within types, listed except as noted in order of estimated overall quality primarily as family transportation and for household cargo. For exterior dimensions, weights, additional specifications and test data, see page 267; for interior dimensions, see page 260. All wagons are 4-door, equipped with regular-fuel V8 engines, automatic transmissions, power steering and, except as noted, nonpower drum brakes. Ratings may be applied to the other wagons listed.

ACCEPTABLE

INTERMEDIATE V8s

PLYMOUTH SATELLITE V8, 2-seat, $3291; 3-seat, $3398. BELVEDERE V8, 2-seat, $3173. SPORT SATELLITE V8, 2-seat, $3437; 3-seat, $3545. ACCOMMODATIONS: Seating space, average for group in front and second seat. Comfort, fair-to-good in front; fair in second seat. Driving position, fair-to-good. RIDE: With light load, good. With full load, fair-to-good. Fairly noisy; road noise high over coarse road surfaces. HANDLING AND STEERING: Good. Slight understeer changed smoothly to controllable oversteer. Steering response, quick and predictable. Power steering effort, too low. NONPOWER BRAKES: Fair-to-good. Pedal effort, moderate; fade performance, good; directional stability, fair. ENGINE AND PERFORMANCE: Smooth and fairly quiet; highway acceleration reserve, adequate. AUTOMATIC TRANSMISSION: 3-speed. Smooth-shifting and versatile. FREQUENCY-OF-REPAIR RECORD: Has been better than average. PROBABLE DOLLAR DEPRECIATION: Average.

¶ *The following two cars were judged approximately equal in overall quality. Listed alphabetically.*

AMC REBEL, 770 V8, 2-seat, $3242; 3-seat, $3354. 550 V8, 2-seat, $3117. ACCOMMODATIONS: Seating space, average for group in front; above average in second seat. Comfort, fair-to-good in front; fair in second seat. Driving position, fair-to-good. RIDE: With light load, good. With full load, fair. Fairly quiet; engine fan noise obtrusive at high speeds. HANDLING AND STEERING: Fair-to-good. Moderate to considerable understeer changed slowly to slight oversteer. Steering response, fairly quick and fairly predictable. Power steering effort, low. NONPOWER BRAKES: Fair. Pedal effort, moderate-to-high; fade performance, fair; fade recovery, slow. ENGINE AND PERFORMANCE: Smooth and fairly quiet; highway acceleration reserve, adequate. AUTOMATIC TRANSMISSION: 3-speed. Fairly smooth-shifting and versatile. 2nd gear starts possible. FREQUENCY-OF-REPAIR RECORD: Has dropped to worse than average. PROBABLE DOLLAR DEPRECIATION: Average.

FORD FAIRLANE 500 V8, 2-seat, $3264; 3-seat, $3317. FAIRLANE V8, 2-seat, $3154; 3-seat, $3207. TORINO V8, 2-seat, $3416; 3-seat, $3469. ACCOMMODATIONS: Seating space, average for group in front; below average in second seat. Comfort, fair-to-good in front; fair in second seat. Driving position, Good. RIDE: With light load, good. With full load fair-to-poor. Fairly quiet. HANDLING AND STEERING: Fair. Slight understeer changed unpredictably to considerable understeer. Steering response, quick and fairly unpredictable. Power steering effort, low. POWER DISK BRAKES: Good. Pedal effort, too low for light stops—otherwise moderate; fade performance, good. ENGINE AND PERFORMANCE: Fairly smooth and fairly quiet; highway acceleration reserve, adequate. AUTOMATIC TRANSMISSION: 3-speed. Smooth shifting and very versatile. 2nd gear starts possible. FREQUENCY-OF-REPAIR RECORD: Has been average. PROBABLE DOLLAR DEPRECIATION: Average.

¶ *The following car was judged somewhat lower in overall quality than those preceeding.*

CHEVROLET CHEVELLE MALIBU V8, 2-seat, $3241; 3-seat; $3353. NOMAD V8, 2-seat, $3020. NOMAD CUSTOM V8, 2-seat, $3131; 3-seat, $3243. CONCOURS V8, 2-seat, $3373; 3-seat, $3485. ACCOMMODATIONS: Seating space, average for group in front; below average in second seat. Comfort, fair in front and second seat. Driving position, fair. RIDE: With light load, fair-to-good. With full load, poor; frequent rear suspension bottoming. Fairly quiet; noisier in second seat. HANDLING AND STEERING: Fair. Moderate understeer changed somewhat unpredictably to considerable understeer; slight, controllable oversteer available at lower speeds. Steering response, fairly quick and fairly unpredictable. Power steering effort, low-to-moderate. NONPOWER BRAKES: Fair. Pedal effort, high; fade performance, fair. ENGINE AND PERFORMANCE: Smooth and quiet; highway acceleration reserve, adequate. AUTOMATIC TRANSMISSION: 2-speed. Smooth shifting but lacks versatility in downhill holdback and high-speed passing. FREQUENCY-OF-REPAIR RECORD: Has been worse than average. PROBABLE DOLLAR DEPRECIATION: Average.

FULL-SIZED V8

OLDSMOBILE CUSTOM VISTA-CRUISER V8, 3-seat, $4242; 2-seat, $4101. Price includes power drum brakes and air-conditioning. ACCOMMODATIONS: Seating space, average in front and second seat for five tested wagons. Comfort, fair-to-good in front; fair in second seat; poor in third seat. Driving position, good. RIDE: With light load, fair-to-good. With full load, poor. Fairly quiet. HANDLING AND STEERING: Fair-to-good. Initial moderate understeer increased to considerable understeer as cornering severity increased. Steering response, fairly quick and predictable. Power steering effort, low. POWER DRUM BRAKES: Fair-to-good. Pedal effort, moderate; fade performance, very good; directional stability, fair. ENGINE AND PERFORMANCE: Very smooth and quiet; highway acceleration reserve, ample. AUTOMATIC TRANSMISSION: 3-speed. Very smooth-shifting and very versatile. FREQUENCY-OF-REPAIR RECORD: Has been slightly worse than average. PROBABLE DOLLAR DEPRECIATION: Average.

FACTS AND FIGURES GUIDE

MFR'S SUGGESTED RETAIL PRICE. Includes Federal tax and dealer preparation charge but not local taxes, freight, or optional extras, except as noted.

ROAD CLEARANCE. Distance from level road surface to lowest part of car likely to strike road.

TURNING CIRCLE. Diameter of the path of the outermost tip of front bumper with wheels turned all the way left.

STEERING FACTOR. Number of turns of the steering wheel for right-angle turn of 30-foot radius.

CURB WEIGHT. Measured weight of CU's car full of gas, oil, water.

TIRE RESERVE CAPACITY. The tire capacity as specified by the Tire and Rim Association for the front and rear tires at normal inflation pressures, minus the curb weight of CU's test car carrying its maximum rated load distributed between the front and rear. A minus number indicates tires are overloaded and must be inflated to higher pressure, or oversized tires should be used.

ENGINE REVOLUTIONS AND PISTON TRAVEL PER MILE. A lower number means, in general, less engine wear, less noise, less acceleration in high gear, and better fuel economy.

ACCELERATION. 0-60 mph and ¼-mile runs with engine idling at start and transmission gears selected for optimum performance; 45-65 mph passing test with accelerator pedal floored and transmission shifting automatically. Times to nearest 0.5 second.

BRAKING. The minimum-distance controlled stop is made from 60 mph and represents the shortest distance (to nearest 10 feet) achieved in several attempts, with the car stopping in a straight line and no uncontrolled skidding. Actual distances apply only to CU's test conditions, including its road surface; but the relative ranking is unlikely to change. The fade test consists of 10 moderate stops from 60 mph repeated at ⅓-mile intervals. The difference in pedal effort between the first and 10th stops represents the degree of fade. Pedal effort is to nearest 5 pounds.

ECONOMY. Constant-speed, level-road tests are corrected to 60°F outdoor temperature and offer a controlled comparison between test cars. Since gas mileage in actual use will be much lower, the range of mileage to be expected is shown. Low figure is for short-range stop-and-go traffic; high figure is for open-road, constant-speed trips. Miles per gallon to nearest 0.5.

facts and figures

	Plymouth Satellite	AMC Rebel 770	Ford Fairlane 500	Chevrolet Chevelle Malibu	Oldsmobile Vista-Cruiser
MFR'S SUGGESTED RETAIL PRICE					
2-seat model with automatic transmission and power steering.	$3291	$3242	$3329[A]	$3241	$4305[B]
DIMENSIONS					
WHEELBASE (inches)	117	114	113	116	121
OVERALL LENGTH (inches)	208	198	204	207	218
OVERALL WIDTH (inches)	75	77	75	76	77
OVERALL HEIGHT, loaded (inches)	56	55	56	55	57
ROAD CLEARANCE: no load (inches)	6.9	7.1	7.7	7.1	6.4
with maximum rated load (inches)	4.8	4.6	5.5	4.5	4.7
TURNING CIRCLE DIAMETER (wall-to-wall in feet)	44	43	42	45	45
STEERING FACTOR: Manual	1.45	1.40	1.43	1.39	1.46
Power	.95	1.02	1.05	1.01	1.07
ADVERTISED FUEL TANK CAPACITY (gallons)	19	21.5	20	20	20
UNDERFLOOR LUGGAGE CAPACITY (2-suiters + weekend cases)	0 + 1	0 + 1	1 + 1	1 + 2	1 + 0
WEIGHT AND TIRES					
CURB WEIGHT (pounds)	3820	3610	3670	3760	4530
PER CENT WEIGHT, front/rear	46/54	50/50	47/53	48/52	50/50
TIRE SIZE (inches)	8.25x14	7.75x14	7.75x14	7.75x14	8.25x14
TIRE RESERVE CAPACITY AT MAXIMUM LOAD (pounds) Front Tires	+750	+452	+453	+339	+166
Rear Tires	—10	—182	+95	—220	+105
ENGINE[C]					
DISPLACEMENT (cubic inches)	273	290	302	307	400
COMPRESSION RATIO & FUEL REQ'D	9.0 R	9.0 R	9.0 R	9.0 R	9.0 R
MAXIMUM ADVERTISED HORSEPOWER AT RPM	190 @ 4400	200 @ 4600	210 @ 4600	200 @ 4600	290 @ 4600
ENGINE REVS PER MILE, HIGH GEAR	2240	2420	2280	2400	2120
PISTON TRAVEL PER MILE, HIGH GEAR (feet)	1240	1320	1140	1300	1200
AXLE RATIO	2.94	3.15	3.00	3.08	2.78
ACCELERATION					
ON LEVEL ROAD					
0 to 60 mph (seconds)	13.0	13.5	13.5	13.0	12.0
¼ mile from rest (seconds)	19.0	19.5	19.0	19.5	18.5
Speed at end of ¼ mile (mph)	73	72	72	72	78
45 to 65 mph (seconds)	8.0	8.5	8.5	8.0	8.0
BRAKING					
LEVEL BRAKING FROM 60 MPH minimum-distance controlled stop (feet)	170	160	160	160	170
Fade test: pedal effort for initial ½-g stop (pounds)	55	70	30[D]	95	55[E]
Effort for 10th repeated stop (pounds)	70	115	50[D]	135	60[E]
ECONOMY					
CONSTANT-SPEED GAS MILEAGE at steady 30 mph (mpg)	24.0	23.5	24.5	23.0	20.0
at steady 40 mph (mpg)	23.0	21.0	22.0	21.0	18.5
at steady 50 mph (mpg)	22.0	19.0	18.5	18.5	17.0
at steady 60 mph (mpg)	20.0	17.0	17.0	16.0	16.0
at steady 70 mph (mpg)	16.0	15.5	14.5	14.0	15.0
RANGE OF GAS MILEAGE TO BE EXPECTED IN NORMAL USE (mpg)	10 to 21	11 to 18	10 to 18	12 to 17	8 to 16

[A] *Includes $65 for power disk brakes.*

[B] *Includes $141 for third seat, $63 for 400-cu.-in. engine, $360 for air-conditioning and $42 for power drum brakes.*

[C] *From factory figures.*

[D] *Power disk brakes.*

[E] *Power drum brakes.*

Cooler Chests

SOME KEPT THEIR COOL LONGER THAN OTHERS, BUT ANY SHOULD DO FOR A DAY AT THE BEACH

To help you get ready for the camping and picnic season ahead, CU bought and tested 25 cooler chests. We chose rectangular coolers as close as we could find to 22 inches wide—commonly described as "family" size. We also included a few smaller or larger models to check alternate designs in some brands. Despite a width difference among the tested coolers of only about three inches, the roomiest model (*Wards 9572*, 1.7 cubic feet) held more than twice as much as one of the smallest (see photo below). And while the coolers listed at from $3.25 to $27.50, the price tag wasn't necessarily determined by capacity.

Some frail vessels

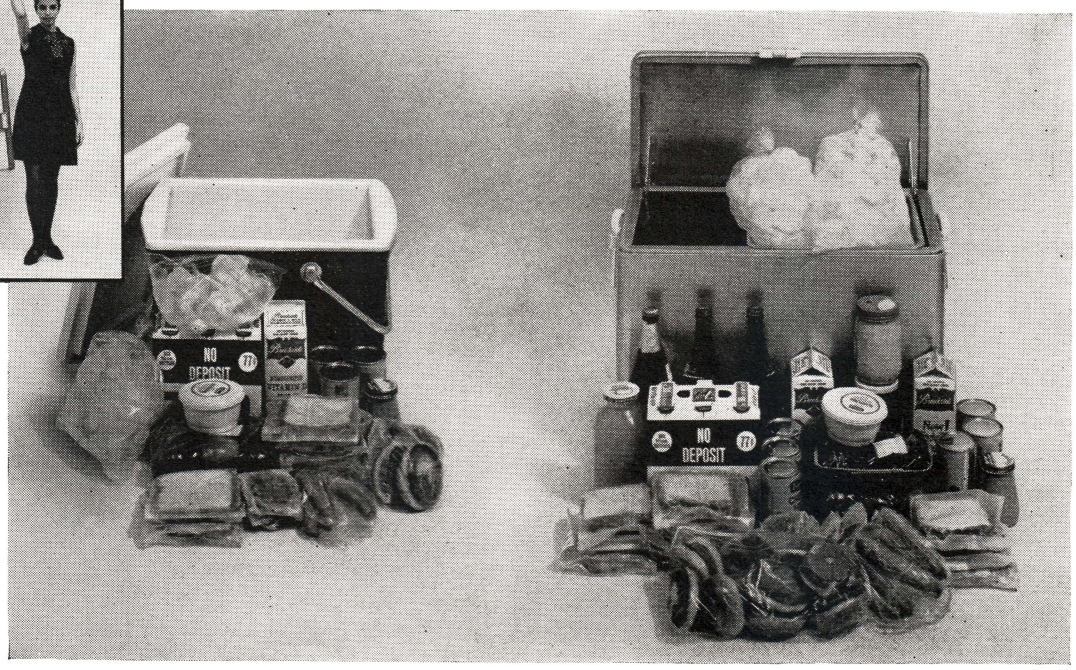
The least expensive chests were also the simplest: rigid, foamed-plastic chambers without either liner or jacket. At 1 to 1½ pounds, the three we tested (*Poloron S28H*, *Lifoam B425J* and *Cool King G-2212*) were notably light, and the *Poloron* retained cold about as well as any of the check-rated chests. But we downrated the all-foam models because of their fragility. They could be dented by a dropped bottle or can and, when loaded, could break easily if dropped or even set down hard on a protruding rock.

Further, if an all-foam chest is accidentally ignited, it will burn steadily, if slowly; even a lit cigarette may burn through it. You'd therefore have to remember to keep it well out of reach of a campfire's sparks. These coolers will also be severely damaged by a splash of gasoline—from a camp stove, say, or the gas can in a motorboat. The gasoline dissolves the plastic foam.

The other coolers were much sturdier, appearing to range in construction from adequate to fortresslike. Their insulating material is protectively sandwiched between sheets of steel, aluminum or plastic, or some combination of those jacket and liner materials. (One model, the *Lifoam C750A*, has an aluminum jacket but no liner.) Many of the jacketed chests are hardy enough to serve as seats when you camp out (a function the *Wards 9572* invites with its padded top). Nor need you worry about the effects of gasoline on their sheet plastic parts, we found.

Such sturdiness, of course, means that you needn't handle those coolers with the care an all-foam chest requires. But the liners and jackets do impose a weight penalty. The check-rated coolers tip the scales at from 8 to 16 pounds. Steel-clad and steel-lined models were particularly heavy; the *Therm-A-Chest*, for example, weighs 24½ pounds. And steel may eventually rust; aluminum and plastic won't.

Lining and sheathing material seemed to have little effect on cooling performance. We found steel, aluminum and



All-foam models, such as the Poloron S28H, top right, add little to the weight of a picnic lunch. Steel-clad heavyweights, such as the Therm-A-Chest, top left, may be a burden even when empty. The roomiest chest tested is the Wards 9572, far right. It holds about twice as much as does the Cool King G-6012H, one of the smallest in the group

plastic construction among both higher-rated and lower-rated performers. Nor did the brand or type of insulation make much difference.

Of course, any cooler's performance is affected by the number of times you open the lid and how long you keep it open each time, by the heat of the day, by exposure to sun and wind, and by the temperature of any food returned to the cooler. Those variables aside, cold retention depends mainly on design, as we found when we put the coolers to the test in our lab.

We lined up the cooler chests in a controlled-environment chamber at 90°F, to simulate a hot summer day. After a stabilizing period in the chamber, each cooler was loaded to about 10 per cent of its capacity with ice cubes at a uniform temperature. Thermocouples inside each cooler gave us a record of temperature distribution and gradual change as the coolers became warmer inside.

With the highest-rated six, you could reasonably expect all but the most perishable food to stay acceptably cool for two or three typical warm summer days, if you packed them about half-and-half with ice and food. While even the lowest-rated models can keep food cool as long, you'd need a higher proportion of ice and so would have less space for your provisions.

How handy were they?

You'll want to consider convenience as well as cold retention. Among the various convenience aspects, CU's engineers noted:

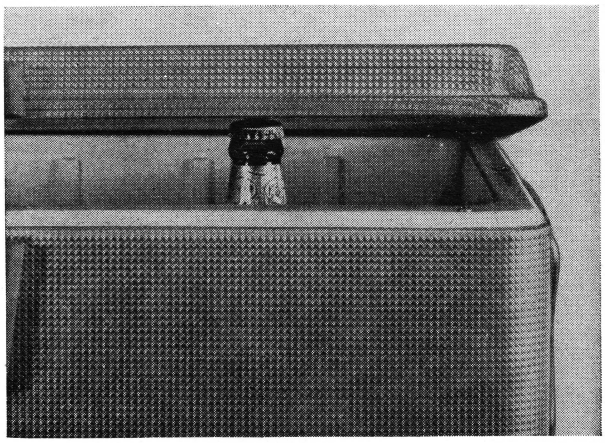
PORTABILITY. The tested coolers weighed from 1 to 24½ pounds when empty. Add up to 50 pounds of food and ice, and you have a load to reckon with. Handle comfort, then, becomes an important factor. Unfortunately, none had handles we'd consider really well designed—with grips long enough for large hands, thick enough for real comfort, and attached so as to keep the hands well clear of the cooler.

The *Sears 71209*, the *Revelation 1288* and the *Poloron 344* and *340A* were particularly poor for clearance; all had handles that swung up far enough against the cooler so you could mash your knuckles. We found the handles on the *Wards 9572* the most comfortable.

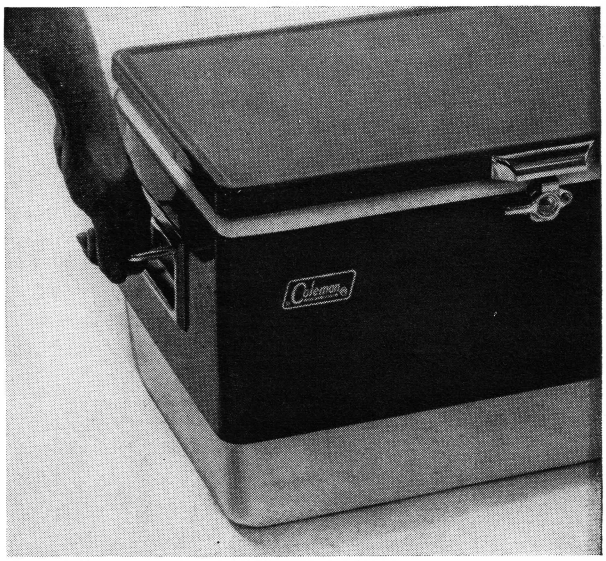
All the coolers are small enough to be carried on the shoulder or, a bit clumsily, by one man using both hands. Six have basket-type handles that swing up over the cooler. Those on the *Lifoam B425J* and the *Hot'n Cooler* may be of some help if you want to carry the cooler with one hand. But, conversely, two people trying to tote a heavily laden chest with basket handles may find themselves leaning at an awkward angle to keep their legs clear.

DRAINS. Of all the models tested, only the *Poloron S28H*, the *Cool King G-2212* and *G-6012H* and the *Hot'n Cooler* lack drains. With those four you have the nuisance of bailing, blotting or tipping them to keep any unprotected food from getting soaked with melted ice. Some campers like to use canned ice, particularly handy with a non-drain cooler.

HINGES AND LATCHES. Most models tested (including all the check-rated ones) offer the convenience of hinged lids with latches. With the few that don't latch, you run the



Only eight models were high enough for storing large soda bottles upright. Most, like the Cold-Flyte 1423-CF, weren't



The handles on the high-rated Coleman—and several other models—do not provide enough clearance for the knuckles

We judged only the small-capacity Hot'n Cooler, above, and the Lifoam B425J convenient for one-hand carrying

COOLER CHESTS continued

risk of the chest opening in transit or the lid being mislaid or set down where it can be stepped on.

DIMENSIONS. If you like to buy soft drinks in large bottles, you may be particularly interested in one of the eight coolers high enough to store such bottles upright. It's easier to identify and remove a standing bottle than one buried on its side in ice or beneath other provisions. And check the Ratings for outside dimensions if you want to be sure your cooler will fit into a small space—behind the back seat of a *Volkswagen*, for example.

ACCESSORIES. A number of models offer special, if minor, conveniences. Seventeen have rather small, removable trays (the *Sears 71209* has two) that you can use for keeping sandwiches and other soakable foods away from moisture. But if your cooler doesn't have a tray, you can easily store such items as sandwiches in plastic containers or bags. Fifteen models have bottle openers built into one or both handles. Four also have a can opener and an ice pick handily clipped to the underside of their lids.

Choosing and using

If you're interested in durability as well as cold retention, any of the check-rated models should answer your purpose nicely. They are all probably roomy enough for most family uses. You could, if you liked, cut your initial outlay drastically and reduce weight without losing capacity or cold retention by choosing the all-foam *Poloron S28H* at $4.89. But, as with the other all-foam models, you'd have to handle it with care.

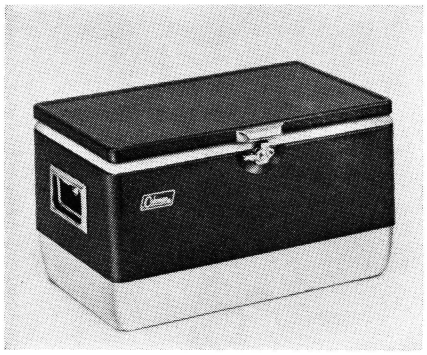
If you just want to store snacks for an afternoon at the park or beach, the $3.25 *Lifoam B425J* or the more durable *Hot'n Cooler*, at about $5, would seem to be good choices. Both are small enough for convenient one-hand carrying. Those models were not top performers, however, so you'd need to use a little more ice than you would with a more effective cooler.

Whatever your choice, you'll be able to boost your cooler's performance if you precool it with a few pounds of ice for about an hour before you pack it, and prerefrigerate the food and drinks to be stowed.

As you pack, keep in mind that colder air inside a cooler settles to the bottom. So put beer and soda in the ice or low down, where they'll keep coldest. Pack such perishable foods as deviled eggs, liverwurst, hamburger and tuna or chicken salad just over the ice. Then pack your less perishable foods, such as steaks and frankfurters, on top. If you follow that packing regimen, any of the coolers should keep your food in satisfactory shape, with a minimum of ice, throughout a summer's day.

We agree with those manufacturers who advise you to avoid dry ice. It's expensive. It might hurt your hands. And it might freeze your food solid.

When the food is gone, wash the inside of the cooler to prevent unpleasant odors. And don't dunk the cooler—that might damage the insulation or promote rust in the steel models. Store the cooler in a dry place with the lid held partly open to let in air.



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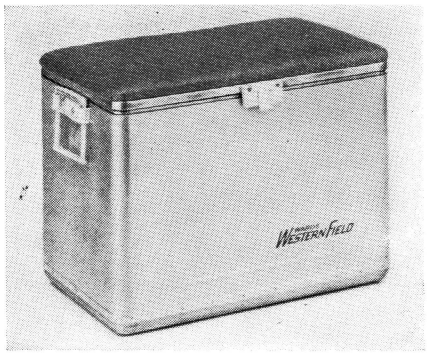

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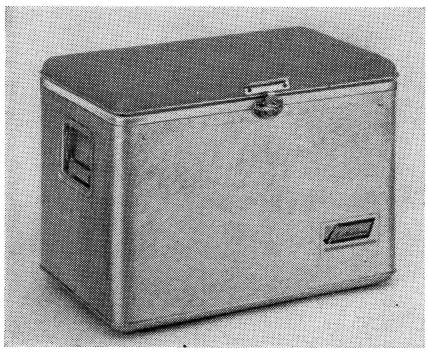
THE CHECK-RATED MODELS

1. COLEMAN LOW BOY 5254
2. WARDS WESTERN FIELD Cat. No. 9572
3. SEARS TED WILLIAMS Cat. No. 71209
4. THERMOS 7751
5. THERMOS 7721

3.



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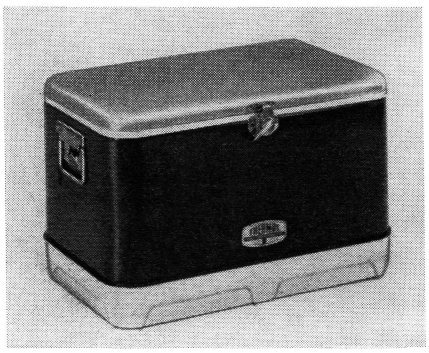

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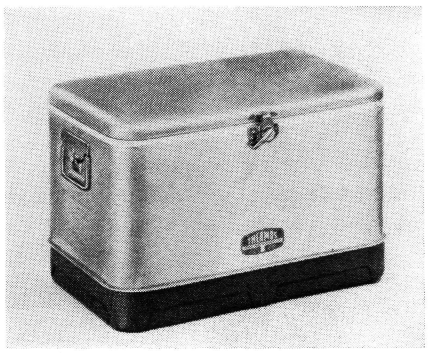


RATINGS OF COOLER CHESTS

Listed by groups in order of estimated overall quality based on cold-retention tests and judgments of durability and convenience; within groups, in order of increasing price and, where price is the same, alphabetically. Dimensions are given in order of height, width and depth to nearest ½ in.; capacity to nearest 0.1 cu. ft., as measured by CU. Prices are list; discounts are generally available.

Except as noted, each has a hinged lid with convenient latch, removable tray, bottle opener and drain. Unless otherwise indicated, none have handles that permit them to be carried comfortably and conveniently with one hand, and none can accommodate large soda bottles upright.

ACCEPTABLE

COLEMAN LOW BOY 5254 (Coleman Co., Inc., Wichita, Kan.), $22. 12½x23x14½ in. 13 lb. 1.3 cu. ft. Steel jacket; plastic base and liner.

WARDS WESTERN FIELD Cat. No. 9572 (Montgomery Ward), $21.50 plus shipping. 17½x24x13½ in. 16 lb. 1.7 cu. ft. Aluminum jacket and liner. No bottle opener. Accommodates large soda bottles upright. Padded top designed to serve as seat. Handles judged most comfortable of those tested.

SEARS TED WILLIAMS Cat. No. 71209 (Sears, Roebuck), $22.50 plus shipping. 16x23x14½ in. 10½ lb. 1.5 cu. ft. Aluminum jacket; plastic liner and lid. Has two trays. Accommodates large soda bottles upright.

THERMOS 7751 (Thermos Div., King-Seeley Thermos Co., Norwich, Conn.), $25.79. 15x23x14½ in. 12 lb. 1.4 cu. ft. Steel jacket; plastic base and liner. Accommodates large soda bottles upright.

THERMOS 7721 (Thermos Div., King-Seeley Thermos Co.), $27.50. 14x23x14½ in. 8 lb. 1.4 cu. ft. Aluminum jacket; plastic base and liner. Accommodates large soda bottles upright.

¶ *The following model retained cold about as well as those preceding but was relatively fragile.*

POLORON COLD PACK S28H (Poloron Prod., Inc., New Rochelle, N.Y.), $4.89. 13½x25x15 in. 1½ lb. 1.3 cu. ft. Relatively light for its capacity. All-foam. No hinges, latch, tray, bottle opener or drain.

¶ *The following models did not retain cold so well as those preceding.*

SEARS Cat. No. 71207 (Sears, Roebuck), $12.69 plus shipping. 13½x24½x15 in. 7½ lb. 1.3 cu. ft. Plastic jacket and liner. No hinges, latch or bottle opener.

COLD-FLYTE 1322-CF (Hamilton-Skotch Corp., NYC), $18.95. 13x23½x14 in. 18 lb. 1.3 cu. ft. Relatively heavy for its capacity. Steel jacket and liner. Includes beverage-can opener and icepick.

THERMOS VAGABOND 7450 (Thermos Div., King-Seeley Thermos Co.), $19.49. 13x22½x14½ in. 12 lb. 1.4 cu. ft. Steel jacket; plastic liner. Accommodates large soda bottles upright.

COLD-FLYTE 1323-CF (Hamilton-Skotch Corp.), $20.95. 13x23½x14 in. 14½ lb. 1.3 cu. ft. Steel jacket; plastic liner. Includes beverage-can opener and icepick.

REVELATION Cat. No. 1288 (Western Auto Supply Co.), $20.95. 13½x23x14 in. 9½ lb. 1.1 cu. ft. Aluminum jacket; plastic liner.

POLORON 344 THERMASTER (Poloron Prod., Inc.), $22.95. Essentially similar to *Revelation 1288*, preceding.

COLD-FLYTE 1422-CF (Hamilton-Skotch Corp.), $24.95. 13x23½x14 in. 10½ lb. 1.3 cu. ft. Aluminum jacket and liner. Includes beverage-can opener and icepick.

THERM-A-CHEST 49-571A (Knapp-Monarch Co., St. Louis), $24.95. 14x24½x15 in. 24½ lb. 1.6 cu. ft. Relatively heavy for its capacity. Steel jacket and liner. Accommodates large soda bottles upright.

THERMOS 7767 (Thermos Div., King-Seeley Thermos Co.), $23.95. 13x22x14½ in. 7 lb. 1.3 cu. ft. Plastic jacket and liner.

COLD-FLYTE 1423-CF (Hamilton-Skotch Corp.), $25.95. 13½x23½x14 in. 9½ lb. 1.3 cu. ft. Aluminum jacket; plastic liner. Includes beverage-can opener and icepick.

¶ *The following models retained cold about as well as those preceding but offered fewer convenience and durability features.*

LIFOAM B425J STANDARD (Life-Like Prod., Inc., Baltimore), $3.25. 13x18x12½ in. 1 lb. 0.8 cu. ft. Relatively light for its capacity. All-foam. No hinges, tray or bottle opener. Can be conveniently carried with one hand.

COOL KING G-2212 (General Foam Plastics Corp., Portsmouth, Va.), approx. $4. 14½x25x14½ in. 1½ lb. 1.4 cu. ft. Relatively light for its capacity. All-foam. No hinges, latch, tray, bottle opener or drain. Accommodates large soda bottles upright.

COOL KING G-6012H (General Foam Plastics Corp.), approx. $5. 13½x18x14 in. 3½ lb. 0.8 cu. ft. Plastic jacket and liner. No hinges, latch, tray, bottle opener or drain.

WARDS WESTERN FIELD Cat. No. 9597 (Montgomery Ward), $9.95 plus shipping. 14x23x13 in. 9½ lb. 1.2 cu. ft. Plastic jacket and liner. No hinges, tray or bottle opener.

REVELATION Cat. No. 1295 (Western Auto Supply Co.), $12.95. Essentially similar to *Wards 9597*, preceding.

LIFOAM C750A OUTDOORSMAN (Life-Like Prod., Inc.), $14.95. 13½ 22½x13 in. 7 lb. 1.2 cu. ft. Aluminum jacket; no liner. No hinges, tray or bottle opener. Accommodates large soda bottles upright.

¶ *The following models did not retain cold so well as any of those preceding.*

HOT'N COOLER G-9012 (General Foam Plastics Corp.), approx. $5. 13x19½x12 in. 3½ lb. 0.8 cu. ft. Plastic jacket and liner. No hinges, latch, tray, bottle opener or drain. Can be conveniently carried with one hand.

POLORON P-15 MUSTANG (Poloron Prod., Inc.), $8.95. 14x18½x14 in. 6 lb. 0.9 cu. ft. Plastic jacket and liner. No hinges, latch or bottle opener.

POLORON 340A THERMASTER (Poloron Prod., Inc.), $14.95. 12½x21½x11 in. 13½ lb. 0.8 cu. ft. Relatively heavy for its capacity. Steel jacket and liner.

This report, based on the experience

Moving: Still the rough road to home

Moving at its best is no picnic. But in the next few months, as moving season reaches its peak, thousands will experience moving at its worst—a nightmare of waiting for the van to arrive days or weeks after it was due, scrounging for cash to pay an unexpectedly high bill, picking up the broken pieces of cherished possessions, putting up with inept or laggard crews of workmen, and vainly trying to collect on claims for damage or loss.

To deal at least partly with moving at its worst, the Interstate Commerce Commission last year put into effect some new rules favoring the consumer. The rules are exceptions to a largely pro-industry pattern of ICC regulation of interstate movers.

How have the new rules worked? A survey of the experiences of CU readers shows that with the new rules in force the frequency of phony low price estimates has tapered off considerably, and so has the frequency of late deliveries. But the survey also shows that movers repeatedly broke the new rules during 1967. In so doing, they broke the law as well. The pattern of violations has been brought to the attention of ICC Chairman Paul J. Tierney and hi staff. The agency can, if it will, enforce its rules witl cease-and-desist orders against flagrant violators and ultimately, with its power to put violators out of business

The unlucky one in four

Our survey's main finding: only about three out of fou respondents to a CU questionnaire judged the movin service they had recently received as being good or ver good. The rest—actually a little over 25 per cent of th respondents—found serious fault with their movers. Tha represents no improvement at all over the results turnec up in our previous survey (CONSUMER REPORTS, July 1963)

One dissatisfied user out of four doesn't sound like ver good consumer odds, and indeed they are not. Because th bad side of household moving service is so frequently ex hibited and because the bad side is what consumers mus guard against, this report must necessarily dwell on un pleasant and even downright horrible experiences.

To find out about movers, we did on a grand scale wha

of 3000 CU members, shows where the worst bumps lie

one has to do to select any kind of consumer service from auto repairs to window cleaning. We asked the people who had recently dealt with a member of the industry. In this case, we sent questionnaires to REPORTS subscribers who changed address last year from one state to another. About 3000 questionnaires came back with accounts of experiences with a commercial mover. They told of travels to and from every state in the union, with scattered reports from most Canadian provinces and from such faraway places as Pago Pago and Kampala (both very good moves, by the way).

Many who returned the questionnaire were veterans of several moves, and that's not surprising. The usual statistic, that one family in five moves each year, does not precisely apply to CU members, many of whom are young, college-educated families. The U.S. Census has found, for instance, that of all people age 25 to 34 who have been to college, 36 per cent move every year. Many of our respondents were military families; many were young professionals or businessmen, government employees or corporation careerists. Tattered though some said they felt from their moves, they were no tattered band; rather, they were people on their way up in the world.

Our questionnaire not only asked them specific questions for tabulation but also encouraged them to describe their experience in detail and to give advice for others to follow.

Not by brand alone

A military officer, describing his 12th move in 10 years, wrote: "The Army has assigned most of the major 'name' movers to me at one time or another, and perhaps the most striking trait has been a remarkable lack of consistency, even within the same company." Other respondents, civilians as well as soldiers, agreed. Our survey statistics bear them out. No company could be rated better or worse than any other (see page 276).

Logic alone suggests that movers in their own best interest would, at least, consistently try hard to please families being transferred by big buyers of moving service. Corporate transfers account for one-third of the moving industry's interstate revenue, and military reassignments account for another third. Repeat business from those sources is the lifeblood of the moving industry.

But according to the questionnaire data, the movers do not seem to be following that logic. About 70 per cent of the response came from people whose employers paid for the move. As a group, they rated moves no better or worse than did those who paid their own way.

Nor does the service seem to hinge on *who* you are. A Congressman's wife, reporting on their move to Washington in January 1967, described the experience as a "nightmare," and the details as she related them would be anybody's idea of a bad dream. Another respondent, who had been transferred by his employer, reported that the moving company behaved, generally, as if he were beneath consideration. And yet he works for a subsidiary of the moving company.

Moving service is likely to be at its indiscriminate worst in summer. It is then that the migratory habits of *Species Americanus* make the biggest demands on moving equipment and manpower. Driven by the fixed cycle of school terms and lease dates, people tend to flock to new homes in three huge peak periods, June 25 to July 2, July 25 to August 2 and August 25 to September 2.

But bad service can be a year-round occurrence. And the reason may very well be the Government-fostered system of industry-wide price-fixing and its related restraints on vigorous competition. Under ICC regulation, moving companies owe nothing more than an absolute minimum of required service for their Government-enforced prices. Here is how Robert L. Rivers, associate professor in transportation and finance at the University of Massachusetts, sizes up the situation:

> Regulation as it now stands is on the side of the industry and is of little benefit to the householder who must move his goods. . . . Under present conditions, the consumer is no better off with government regulation than he would be without it. It is difficult to conceive how conditions could be any worse even in the absence of regulation.

Movers should be regulated, Professor Rivers holds, but what is needed, he says, "is another type of ICC: an Interstate *Consumer* Commission which would provide adequate protection for the welfare of the consumer and try to establish some equalization of his bargaining status vis-à-vis the household-goods movers."

CU entirely agrees. Congress should review the regulatory setup. What seems to be needed is a new agency—one not burdened with the ICC's bureaucratic bias—or at least a special new bureau within ICC. But for the foreseeable future, the public must struggle along under pro-industry regulation. And that regulation not only prevails for moves between states but also sets the general pattern for moves within states.

Guess of a salesman

The rules can start working against you the very first time you contact a mover about service. In most instances, a salesman will come to your home to estimate the size and cost of your shipment. Trouble begins with estimates. Too often, the salesman fails to make clear that estimates are not binding. No matter what price is quoted, in writing or verbally, the driver will present to C.O.D. customers, at their front door before unloading, a bill based on actual weight. That's the amount he will demand, plus all the actual charges for such extras as packing. The whole thing can add up to far more than expected. We had reports of bills running hundreds of dollars above estimates.

On a C.O.D. move you must pay the whole bill—not just the estimate—in cash, money order, travelers checks or certified check before a stick of furniture is taken off

the truck. A personal check won't be accepted. The problem of raising a sizable sum in cash or its equivalent on short notice in a strange new town does not concern the driver. After waiting three hours (one hour on moves of less than 200 miles), he must start charging extra for each hour of delay between 8 A.M. and 5 P.M. Or he can, at his option, put the goods in a storage warehouse, which will charge the owner for a full month's storage, plus drayage and handling.

Whatever the justification for cash on delivery, it is a much-abused rule. Here's what happened to one family, beginning the day the moving van was expected to make its delivery:

> After contacting the local agent for three days, we were given a promised date of April 27, which was not met. I contacted the agent again on May 4 and was assured that delivery was not expected on that date, but if a change were to be made he would contact me. To my surprise, after 3 P.M. the mover knocked at the door ready to unload the furniture and requesting payment for same before unlocking the door to his van. He was very angry with me that I didn't have the necessary cash on hand to cover the bill. He refused my check, and after calling the bank and getting verification from the teller that our account was adequate to cover the bill, he still refused to accept it. With the cooperation of the apartment manager, who is a close friend of the bank president, provisions were made for me to obtain the necessary cash. . . . Otherwise, the mover stated that he would return our furniture to Dallas at our expense and inconvenience. . . .

Though the customer must fork over cash, nothing says the mover has to have change:

> The final bill at delivery was $30 less than the estimate. I paid with a certified check for the amount of the estimate. It required letters to local agents and the Allied main office, plus several telephone calls, to finally obtain my change over three months later.

Sometimes the mover will demand the cash price of delivering all your goods when he hasn't brought all of them:

> The salesman who made the estimate did so carelessly. Consequently, some of our belongings had to be moved as overflow on a different van from the one bringing most of our things. The overflow of course came a week or so after the original load, but the driver of the original load insisted on collecting the total cost of the move, which we were reluctant to pay without all goods in hand.

One of the new rules adopted by the ICC quite reasonably requires movers to send word at least a day ahead of delivery if the bill is going to be more than 10 per cent higher than estimated. During 1967, movers broke that rule, in dealings with our survey respondents, 42 per cent of the time.

Inaccurate price estimates are sometimes the consumer's doing. He may not point out to the salesman everything he intends to move, or he may decide afterward to add or subtract things for the load. A close estimate can turn out to be high by inspiring cost-consciousness toward possessions that aren't worth their shipping cost.

But underestimates too often are a deliberate sales ruse to win the job. That's called low-balling. Some new ICC rules foster more reliable estimating. Interstate movers must use a standard estimating form on which all estimates must be submitted. And the salesman must come to your home to inspect the shipment.

Those rules, too, were sometimes ignored last year. We asked respondents whose bills were underestimated whether a salesman had visited them; 9 per cent said no.

Movers must also report to the ICC all shipments for which the price was more than 10 per cent above the estimate, and must give the reason for each error. ICC Chairman Tierney, after studying the first year's reports, had some harsh words for the industry. He wrote to Senator Warren G. Magnuson, "The results of this tally have led us to believe that a large number of carriers are failing to report all their underestimates, and there is a possibility that many of the reports could be false."

In CU's survey, 18 per cent of all estimates received by respondents were far enough below actual price to require a report to the ICC. That's a considerably better record of accuracy in estimating than the ICC detected some years ago. But our survey also indicates that most underestimating was the salesman's fault. The questionnaire asked whether items added to the shipment after the estimate could have boosted the price of the move. Some people reported that as a possibility. Eliminating them from the data, the survey still found 14 per cent of shipments seriously underestimated.

Considering the difficulties an underestimate can cause, further improvement is called for. CU proposes new rules requiring movers who have made an underestimate to unload for the estimated price, the balance payable in 30 days, and requiring movers who have overestimated the price to make change immediately, in cash or check, for any higher amount presented for payment in the form of a certified check or money order.

Empty home, empty hearth

If there's anything worse than not having enough money to pay the van driver, it's not knowing where he and your belongings are. Yet, as far as the Government is concerned, movers don't have to arrive when expected.

A pamphlet that the ICC requires movers to give their customers informs them that "the carrier is not obligated to deliver your goods on any particular day, but only to deliver within a reasonable time." Other rules provide for special arrangements under which the mover does, for a substantial extra charge, take on an obligation to deliver on the day you request. But if he doesn't show up, his only penalty is loss of the extra charge.

In our survey of 3000 moves, 144 shipments arrived one day late, 293 arrived two to seven days late, and 161 arrived more than a week late. Thus, 20 per cent of deliveries were made one or more days later than expected. The only good news there is that the earlier ICC survey found 30 per cent of deliveries were late.

The hardships of waiting several days for the van to come are not easily exaggerated:

> We are a family of two adults and four school-age children. We had to stay in a motel without the proper clothing or accommodations, eat in a restaurant . . . for an entire week. . . . We couldn't even stay in the home we were paying $200 a month

rent for. The motel expenses were about $200 and food cost us nearly $300. . . . When moving companies do not deliver on time, they should be made to pay the expenses at least—to say nothing of the inconveniences and wear and tear on the nerves.

That family filed a claim for living expenses. The mover, Allied Van Lines, rejected it.

Very few people in our survey asked the mover to pay the expenses of a late delivery. Those who did were usually rewarded. North American Van Lines paid two claims for motel expenses and meals. Bekins Van Lines paid a claim after its van, the subject of a search by state police and the FBI, finally showed up 10 days late. Allied Van Lines paid a 15-day motel bill after mistakenly putting a shipment in the warehouse. United Van Lines paid part of the living expenses of a family stranded for a month. Greyhound Van Lines paid $200 of $500 claimed by a family of nine for two weeks in a motel.

Under new ICC rules, movers are merely required to take some of the uncertainty out of an unfair situation by notifying customers in advance when the van will not be able to deliver on time. Notice of the rescheduled delivery date must ordinarily be sent at least 24 hours before the day or span of days in which the van was originally to have arrived.

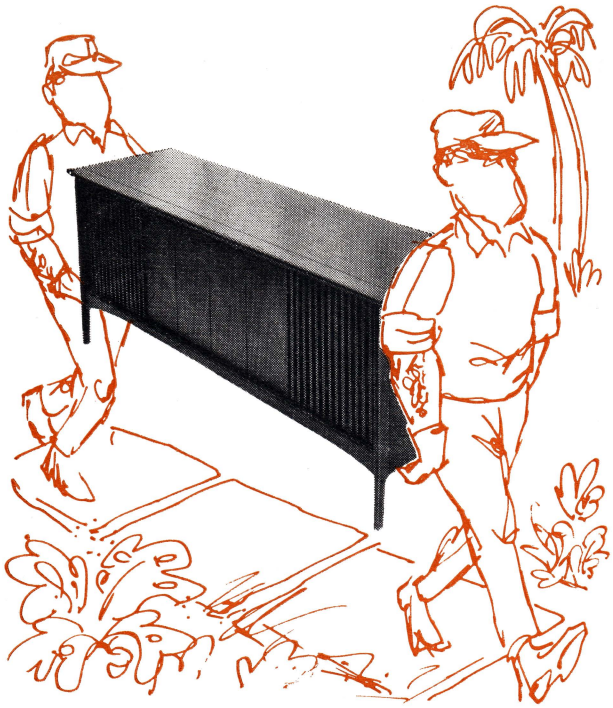
Notice of lateness seems little enough to ask. But apparently it is too much for the moving industry to comply with. Of the 598 families in our survey who reported a day or more of delay in their deliveries, 65 per cent weren't notified.

Life can get rough, too, if the moving van arrives at your new address ahead of schedule. "When the furniture arrived four days early, we were faced with a choice of taking housing we didn't like or having furniture in storage (with the breakage this always entails)," wrote one respondent. Another reported: "The mover agreed to deliver goods on the date requested, but after the van was half loaded, the driver informed us that he was going to make an extra-quick trip and get there a week before we did. The agent could do nothing. Result—an additional $350 in storage charges."

Those storage charges were legally assessable under the rules. But even worse can happen. The driver, in one case, arriving a day early and finding nobody home, somehow managed to open the house and unload. "They had *dumped* our things in the house," the respondent said:

> It was a two story house with all the bedrooms upstairs. They had taken *nothing* upstairs. Every box was in the kitchen—our refrigerator and washer, sofa and rugs in the dining room. Our *new* living room chair in the *bathroom*. All the garden tools, lawn mowers, etc., in the *living room*—and so on. We entered through the back door and couldn't even make our way to the front without first moving things around. We had to sleep on the box springs on the floor for two nights as we couldn't get to the mattress—it was piled behind so much other stuff. . . . This was on a Friday, and we were unable to reach the local agent until Monday, at which time he did come out and help my husband move some things upstairs. . . . It was double trouble as our son was seven weeks old at the time. Coming to a mess like that in a strange town after a car trip of five days made the whole thing something we would rather forget, but don't think we ever will.

Movers are equally at liberty to be late for pickups. They exercised that right by coming a day or more late to pick up the possessions of 237 families in our survey—



8 per cent of those reporting. Leases expired. New owners came to occupy their unvacated houses. Husbands departed for new jobs, leaving wives to cope with the movers when and if they ever did show up. Sometimes they never did. One man was obliged to rescue his wife and belongings by renting a truck, driving it back to the old home, and moving things for himself.

Some more new rules are called for. Movers should be forbidden to charge for waiting time or storage when they arrive ahead of time. They should be subject to a fine for not loading on the promised day. They should unload only in the presence of the customer or his representative unless instructed otherwise. They should be required to pay all reasonable extra expenses actually incurred because of late delivery.

The damage done

Of all the horror stories about moving, the worst tell of precious possessions damaged or lost. Almost half the respondents to our questionnaire said they filed claims for damage or loss. About one-third of the claimants were not paid in full or were not satisfied with the repairs paid for by the mover. As you might expect, large claims were less often paid in full than small ones.

Some very large claims were reported. One van was wrecked in a crash. Two others caught fire, and most of the contents were destroyed. Even when the unfortunate owners were paid in full—and some were not—the taste of disaster remained. "The claim was settled with insurance coverage allowing $1.25 a pound recovery of all losses," wrote one victim. "And even that isn't enough when a family loses nine years of . . . accumulated possessions."

Much smaller damages soured many people on movers,

Continued on page 278

A self-defense manual for moving day

The big moving companies give out cheery pamphlets on how to move. Read them by all means. But cheery pamphlets are not enough. Heed these words of an Air Force wife: "The first bit of advice I would give to someone who has never moved is to get out of your mind immediately the image of the movers put forward by advertisements. They will *not* dismantle your entire home, transport it lovingly, and reassemble it, intact, at your destination. The only person *really* looking out for your possessions is *you*."

The following hard-nosed instructions are the product of her experience and that of thousands like her.

CHOOSING A MOVER. Do it weeks in advance. The sum total of experiences reported to CU suggests no brand-name reliability in the services of the big moving companies. Statistically meaningful numbers of reports were received about the five largest—Allied Van Lines, Aero Mayflower Transit Co., North American Van Lines, United Van Lines and the Bekins group of companies. The chances of getting a good long-haul move or a bad one appear about the same with any of them, although Bekins tended to underestimate shipping costs more often than the others. Bekins was also more often asked to pay claims for damage or loss but did settle its claims about as adequately as any of the others. The overall quality of service was in general no better or worse from those five companies than it was from the industry as a whole. If an exceptionally good or bad interstate van line exists, our survey was not large enough to spot it.

Base your choice, therefore, on the reputation of agents at origin and destination. If the company has no agent near your destination, there may be difficulty getting unpackers and settling claims. Nationally operating van lines consist of networks of local movers and warehousemen, usually independent. The van lines themselves are responsible for the cross-country vehicles, the men who drive the vans and supervise work crews, the dispatching and consolidation of loads going in the same general direction, and the handling of large damage claims.

GETTING ESTIMATES. One good indicator of a local mover's service is the care with which his salesman estimates the size of your shipment. First, decide what to move and what to sell or give away. (Garage sales are getting very popular.) Then, if possible, invite two or three agents to look things over. Don't award the job for a long move on the basis of lowest price estimate; interstate shipping rates based on weight are virtually the same industrywide (though you may find real price competition for business within a metropolitan area). But weight estimates can vary widely. Even if your employer will pay the bill directly, have the salesman make an estimate. A wrong judgment of the size of your shipment can consign an overflow of your things to many dangerous days in a warehouse.

Every salesman who comes must hand you an ICC pamphlet called "Important Notice to Shippers of Household Goods." It's a bad sign if he doesn't; it's illegal, too. And when you give your job to a mover, he must send a more detailed pamphlet, also required by the ICC: "General Information for Shippers of Household Goods." Ask him also to send you a copy of the shipping order with preferred pickup and delivery dates and other details on it.

ABOUT CREDIT. Movers happily grant credit to companies transferring employees. The applicable ICC rule, Ex-Parte No. MC-1, says movers may give *anyone* with a good credit rating 30 days to pay the bill. There is no credit charge for the arrangement, if you can get it as an individual. You seldom can, but ask the salesman anyway. A charge-account move can save you from a sudden cash shortage if the bill is much larger than estimated. It can also give you some leverage if the unpackers balk or you suspect some other form of cheating. Make sure any promise of 30-day credit is put in writing and appears, on moving day, on the bill of lading.

The salesman may propose instead an installment note financed by a loan company. It will give you no leverage whatsoever and will cost dear in finance charges. We don't recommend that kind of credit.

MAKING PLANS. Avoid storage if you can. The almost universal warning of veteran wanderers is that damage and loss is likeliest when furniture has spent time in a warehouse. Schedule some days of leeway at both ends of the trip. Ask for the van to come well before your home must be vacated. Then, if the van doesn't come on time and the agent sounds vague, try at once to hire another mover.

Don't plan to vacation while your van is on the road. Head straight for your new home in case the mover arrives a week or two before he's supposed to; if you're not there, he'll unload into a warehouse. Vacation later; you'll need the rest.

VALUABLES. Movers don't accept liability for valuables. Before they come, lock up good jewelry, negotiable paper, coin collections, books of trading stamps, and such. Lock up guns, too; several readers report theirs disappeared mysteriously. Plan to take valuables in the car. Have an appraisal made of any antique furniture and oriental rugs going in the van. You'll need it as evidence if you have to file a claim.

APPLIANCES. Preparing washing machines, dryers and other appliances for shipment is an extra-priced service, and movers may do a poor job of it. Call in your own repairman instead, and also have him explain what needs to be done to put things back in service.

INSURANCE. The important point is to protect against major losses. Unless your goods are to be insured by your employer's master policy, the full-value liability shipping rate (see page 278) is the very least protection to buy. It helps to have, in addition, an outside insurance policy. If you own a house, try to buy a household goods trip-transit floater from the company that writes your homeowners insurance.

PACKERS. Before they arrive, organize each room for packing. Empty all closets, chests and cabinets; group the contents of each for packing together. Have the packers label each box or carton with its assigned room and contents. Make your own inventory lists of what's in each box; if that's too difficult, at least keep track of anything worth filing a claim for. When the packers come, try to supervise without telling them how to do their job. Slow

them down if need be. Try to have a family member assigned to each worker. (A steady supply of coffee will help everyone's disposition.)

China and other breakables should be sheathed in corrugated paper and placed, one item to a cell, in a compartmented dish pack or barrel. Lampshades go one to a box, with no fellow-traveling objects. Special sulphur-free tissue wrap for silverware prevents tarnishing. Sofa cushions belong in cartons, not in crannies of the van.

Count all containers by type and size in cubic feet. Packing charges are based on the number of containers used. Watch out for movers who try to pad the price by only half-filling containers and by packing everything in sight, including fireplace logs and garbage.

FOR THE ROAD. If delivery is delayed, you may need clothes, bedding and kitchen utensils for several days of indoor camping. Everything you will take in the car must be kept out of the movers' and packers' grasp.

SELF-PACKING. It's a big money-saver on out-of-pocket moves. Barrels rented from the mover cost $2 each; cartons, 75¢ each. Instead, try getting cartons free from furniture and liquor stores. The paperboard should be of at least 200-pound burst strength; in large cartons (more than six cubic feet), 275-pound strength. (Look for specifications imprinted on the carton.) Contrary to what you may have heard, movers are responsible for breakage of items packed by the owner who ships his household at the full-value liability rate. Send boxes of books by parcel post at low educational rates.

LOADING DAY. Keep your telephone in operation until the van leaves. You may need it to phone complaints to the agent. Working hours are normally 8 A.M. to 5 P.M. If the van starts loading (or unloading) late in the day, you have every right to halt work for the night at a reasonable hour. Try to establish a good working relationship with the driver. It's permissible, but by no means necessary, to promise him and his crew a tip if all goes well.

The driver should list every piece of furniture and appliance on an inventory sheet. He will usually enter code letters indicating condition—marred, scratched, gouged, rubbed, cracked, soiled, torn, etc. Challenge any false or exaggerated description. If he won't change it, note your protest on the inventory. (Some hardy folk keep a camera handy.) Rigorous overseeing of the inventory list may be the most important precaution of the entire move.

Rugs should be rolled, not folded. Don't permit anything to be tied on the truck's tailgate. Take a last look in cupboards, closets, basement, attic, garage and yard. Get the driver's name, van number, shipment number and travel route and the name of the destination agent in case your shipment needs to be traced.

AT YOUR DESTINATION. For C.O.D. shipments, the best acceptable currency is travelers' checks. You can ask to be notified in advance about the actual charges, but don't count on hearing. Be prepared to pay twice the amount of the estimate. If extra living expenses pile up because the van hasn't arrived, keep receipts and file a claim (unless your employer reimburses you). When the van does come, don't accept an overly high bill without question. If the weight seems grossly high, tell the driver to have the van reweighed. There's a $20 charge, but only if the original weight was close to correct. You may save much more than that on a false weight.

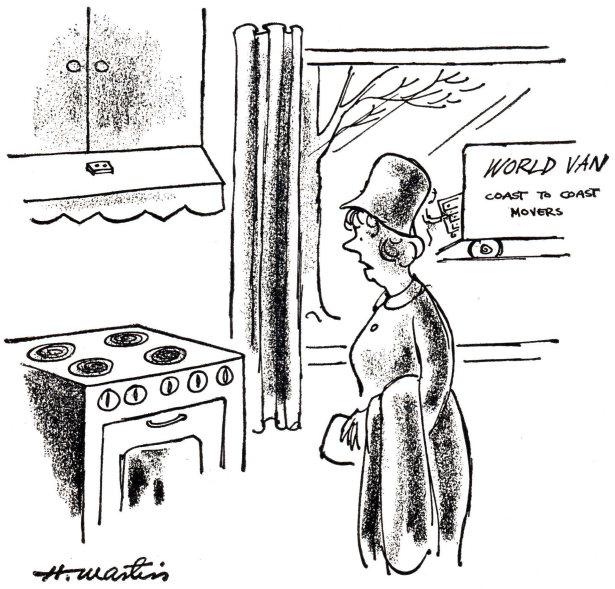
UNLOADING. Husband, wife and teen-age children should be on hand for the unloading. You have the right to one placement of furniture and the men need to be shown where furniture goes. Someone should keep a count of containers coming off the van. Someone else should check off the furniture and other items and look for damage. Do not sign the inventory sheet, no matter what the driver says, until you have noted on it every bit of damage and loss that you have discovered, and until you have written on it, "Subject to further inspection for concealed loss or damage."

UNPACKING. It's included in the price of packing, but when the hour is late and the crew is unwilling or obviously incompetent, you may be tempted to do it yourself. On the other hand, getting everything put away—even in the wrong place—and getting rid of 50 or 100 boxes and barrels will make life easier for days to come. So stand your ground and, if necessary, demand that the destination agent send a trained crew.

CLAIMS. List the approximate replacement price of lost or broken items. Movers have their own depreciation formulas. They *should* pay fully for repairs and estimates of repairs. You can file a claim or add to it until nine months after delivery. Notify the moving company or destination agent. If you get no response in 30 days, complain to the nearest office of the ICC. It has field offices in 90 cities. If its field man won't help you, write to the Director of the Bureau of Operations, Interstate Commerce Commission, Washington, D.C., 20423. Complain again if the mover hasn't offered to settle in four months. The ICC won't judge claims, but it often expedites settlement.

In fact, call the ICC office at any point in a move if you think the rules are being broken.

HENRY MARTIN FOR CU



"Stove, I've come to say 'goodbye'."

when they exhibited carelessness or outright disregard for property or when, afterwards, they shrugged and said that's the way it goes. "Claims are resisted, insurance encouraged, and general excuses are offered for loss, damage, or breakage," one man wrote, and that pretty well sums it up.

A new ICC rule requires movers to acknowledge all claims in writing within 30 days. Movers broke the rule in dealing with 195 respondents. Another new rule says movers must pay or reject most claims or make a compromise offer within 120 days. The questionnaire didn't attempt to nail down compliance with that rule, but many respondents complained of waiting far longer than four months for the mover to make any kind of an offer. A few were still waiting after a year.

After besting the moving industry in a long court fight, the ICC put into effect last year a new insurance plan to cover damaged and lost goods. Previously, household goods in transit were treated as second-class cargo. The mover's liability for the damage he did was limited, at his basic rates, to 30¢ per pound per article. Full-liability protection, so-called, could be purchased at extra price, but the coverage was full of escape clauses, and movers sometimes welshed on claims.

Under the new ICC insurance plan the extra price for full-value coverage becomes part of the going rate. But you can get a lower rate by requesting it in writing on the bill of lading. Then the mover's liability is 60¢ per pound per article. That's twice the former rate but still nowhere near the full value of many items. A smashed table radio weighing seven pounds may have cost $80; the mover can settle with you for $4.20.

Full-value coverage has boosted the going rate by 50¢ for each $100 of total lump sum value declared by you the owner. The mover will set the value of a shipment at $1.25 per pound unless you declare a higher value. For example, the mover would appraise 8000 pounds of belongings at $10,000, adding $50 to the bill. But you could declare a value of, say, $12,000, and pay $60 instead.

So far as can be judged from our survey, trouble has been neither eliminated nor much alleviated under the new system. Charges of foot-dragging on settlements were a commonplace. Quite as disturbing, questionnaire respondents by the hundreds said that the van drivers described almost all furniture on their inventories as much the worse for wear. A typical comment: "I would like to know why every piece of furniture must be labeled as marred, badly damaged or dented when none of this is visible to the naked eye!"

The self-evident answer to that entirely rhetorical question: So that the mover can use the inventory as a reason for denying claims for damage. The "scratch sheet," as one veteran Army wife calls it, is nothing new. But the new full-value insurance system seems to have made it almost universal.

If you try to press a claim against a mover, you'll soon run out of legal remedies. CU's legal consultants found very few reported cases of damage suits against movers. Legal expenses are so high in relation to claims as to rule out all but the largest suits. So when disputes arise, the mover is usually defendant, judge and jury rolled into one.

As matters stand, the law won't allow the ICC to adjudicate claims. The Senate Commerce Committee has for some time been considering, at CU's suggestion, giving the agency the necessary authority. Another approach would be for movers to commit themselves to binding arbitration of disputes. Movers' trade association members in metropolitan New York and New Jersey have voluntarily put arbitration clauses in their contracts for some years. The American Arbitration Association handles the disputes (which have been very few). But so far the big national movers' tariff bureaus have been cool to the idea.

The unpacking cheat

A full catalog of complaints against movers would fill a book. Only one more will be aired here. It is the matter of packing and unpacking.

The packing of china, kitchenware and other loose items is an extra service that movers offer—at quite a price. It's so high, in fact, that people paying for their own moves usually can't afford packing. But the taxpayer buys it as a rule when Government employees and military families are reassigned, and the consumer pays indirectly when corporations buy it for their personnel.

The quality of packing can be very high. It can also be worse than bad. Many people reported that thoughtless packing by untrained or careless workers led to damage.

The movers' tariffs state that every packing charge includes unpacking service as well. Some people tell us they don't like the movers to unpack, preferring to do it themselves gradually as their new household gets organized. Others report that movers hired casual labor from street corners to unpack, or rushed the job intolerably. Of the 2209 respondents in our survey who ordered packing, 10 per cent said the unpacking was done only after an argument; another 10 per cent said some of it was left undone; 13 per cent said it wasn't done at all, quite often because the householder told the movers not to unpack but quite often, too, because the mover refused to do it.

The very least the ICC should do is insist that movers' tariffs must quote packing and unpacking charges separately so that people can order only packing if that's all they want. Furthermore, the bill for unpacking should be collectible only after the work has been done. As matters stand, unpacking service leads to unconscionable cheating.

Lest people planning a long-distance move lose all hope, let it be said again that nearly three-fourths of the respondents to our questionnaire rated their movers good or very good. People seldom expected perfection and generously forgave late deliveries, sizable damage and other troubles. Some people had high praise indeed for their movers and for movers in general. For example:

> We are a family of six. We've moved from East to West and West to North and North to South—all long-distance moves. Each time, the estimate was correct, the driver thoughtful, and our belongings intact and in good shape.

Movers are quite capable of giving good service. The pity is that they can't be depended on to give it.

movies

CU makes no movie selections; it simply reports the summarized results of a continuing poll of readers, along with a consensus of critics' reviews. Pictures are rated as Excellent (**E**), Good (**G**), Fair (**F**), or Poor (**P**). Where opinion was divided, the first letter reflects the main vote.

SCORED EXCELLENT OR GOOD BY CRITICS AND BY 85% OR MORE OF CU'S REPORTING READERS

PICTURE	CU	Cr
BATTLE OF ALGIERS (Fr. & Arabic)—Y. Saadi	E	E
BEDAZZLED—P. Cook, D. Moore	GE	G
THE CLIMAX (Ital.)—U. Tognazzi	GE	GE
COOL HAND LUKE—P. Newman, G. Kennedy	GE	G
CRAZY WORLD OF LAUREL & HARDY	G	G
ELVIRA MADIGAN (Swedish)—P. Degermark	GE	GE
FAR FROM THE MADDING CROWD	GE	GE
THE GRADUATE—A. Bancroft, D. Hoffman	EG	GE
GUESS WHO'S COMING TO DINNER	EG	G
IN COLD BLOOD—J. Forsythe, P. Stewart	EG	GE
IN THE HEAT OF THE NIGHT—S. Poitier	EG	G
THE INCIDENT—T. Musante, M. Sheen	GE	G
INSIDE NORTH VIETNAM—F. Greene doc.	EG	GE
JUNGLE BOOK—Animated feature	GE	G
MAN FOR ALL SEASONS—P. Scofield	EG	E
OUR MOTHER'S HOUSE—D. Bogarde	GE	G
PLANET OF THE APES—C. Heston	EG	G
TAMING OF THE SHREW—E. Taylor, R. Burton	GE	G
THIS SPECIAL FRIENDSHIP (Fr.)—F. Lacombrade	G	G
TITICUT FOLLIES—Documentary	GE	GE
TO SIR, WITH LOVE—S. Poitier, J. Geeson	GE	G
TWO OF US (Fr.)—M. Simon, A. Cohen	G	GE
WAIT UNTIL DARK—A. Hepburn, A. Arkin	GE	G
THE WITNESSES—Documentary	GE	E

READERS' AND CRITICS' RATINGS OF OTHER PICTURES

PICTURE	CU	Cr
THE AMBUSHERS—S. Berger, D. Martin	FG	F
ANDERSON PLATOON—Doc., Vietnam War	GF	G
THE ANNIVERSARY—B. Davis, J. Hedley	GF	F
ARIZONA BUSHWHACKERS—H. Keel	F	F
ATTACK ON THE IRON COAST—A. Keir		F
BALLAD OF JOSIE—D. Day, P. Graves	FG	F
BERSERK!—J. Crawford, T. Hardin	FP	P
BIGGEST BUNDLE OF THEM ALL—R. Welch	FP	F
BILLION DOLLAR BRAIN—M. Caine	FG	F
BLACKBEARD'S GHOST—P. Ustinov	FG	FG
BLOOD BEAST FROM OUTER SPACE	FP	F
BLOODY PIT OF HORROR—M. Hargitay		P
BONNIE AND CLYDE—F. Dunaway, W. Beatty	GE	GF
BYE BYE BRAVERMAN—G. Segal	FG	F
CAMELOT—V. Redgrave, R. Harris	G	G
CARMEN, BABY—U. Levka, C. Ringer	PF	P
CHAPPAQUA—C. Rooks, J.-L. Barrault	G	G
CHARLIE BUBBLES—A. Finney, L. Minnelli	GF	G
CHARLIE, THE LONESOME COUGAR	GF	GF
CHINA IS NEAR (Ital.)—E. Tattoli, G. Mauri	G	G
CLAMBAKE—S. Fabares, E. Presley	FG	F
CLOSELY WATCHED TRAINS (Czech)	G	G
THE COBRA—A. Ekberg, D. Andrews	F	F
THE COMEDIANS—E. Taylor, R. Burton	FG	GF
COP-OUT—G. Chaplin, J. Mason	FP	F
COUNTDOWN—J. Moore, J. Caan		F
COUNTERPOINT—C. Heston, M. Schell	FG	FG
CUSTER OF THE WEST—M. Ure, R. Shaw	FG	FG
DAISIES (Czech)—J. Crhova, I. Karbanova	F	F
DANGER ROUTE—C. Lynley, R. Johnson		PF
DARK OF THE SUN—Y. Mimieux, R. Taylor		F
DAY OF THE EVIL GUN—G. Ford, A. Kennedy		F
DAY THE FISH CAME OUT—T. Courtenay	FG	FG
DESPERATE ONES—M. Schell, R. Vallone		FG
THE DESTRUCTORS—P. Owens, R. Egan		F
DEVIL'S DAFFODIL—C. Lee, M. Goring		P
DIAMONDS OF THE NIGHT (Czech)—A. Kumbera		FG
DID YOU HEAR ABOUT TRAVEL. SALESLADY?	F	P
DIMENSION 5—F. Nuyen, J. Hunter	FP	P
DOCTOR DOLITTLE—S. Eggar, R. Harrison	G	G
DOCTOR FAUSTUS—R. Burton, E. Taylor	F	FG
EYE OF THE DEVIL—D. Kerr, D. Niven	F	F
FATHER (Hungarian)—A. Balint, D. Erdelyi	F	FG
THE FEAR (Greek)—A. Vlachos	F	F
FEARLESS VAMPIRE KILLERS—J. MacGowran	F	P
FIRECREEK—H. Fonda, J. Stewart	FG	GF
FITZWILLY—D. Van Dyke, B. Feldon	G	GF
FIVE MILLION YEARS TO EARTH—A. Keir		PF
FOR PETE'S SAKE—P. Scott, R. Sampson	FG	FG
491 (Swedish)—L. Lind, L. Nymark	FG	FG
THE FOX—S. Dennis, K. Dullea	GF	GF
GAMES—S. Signoret, J. Caan	GF	FG
GAMES MEN PLAY—M. Antinea, A. Bruce	P	P
GENTLE GIANT—V. Miles, D. Weaver	G	FG
GIRL AND THE GENERAL—V. Lisi, R. Steiger	FG	FG
GLORY STOMPERS—J. McCrea, D. Hopper	FP	PF
GOOD MORNING AND GOODBYE!—A. Capri		PF
GOOD, THE BAD AND THE UGLY—C. Eastwood	FG	FG
GRAND SLAM—J. Leigh, E. G. Robinson	GF	FG
GUILT (Swedish)—H. Brodin, S. B. Taube	PF	PF
GUNS FOR SAN SEBASTIAN—A. Quinn		F
HALF A SIXPENCE—T. Steele, J. Foster	FG	GF
HAPPIEST MILLIONAIRE—F. MacMurray	GF	G
HELL ON WHEELS—M. Robbins, J. Ashley		P
THE HELLBENDERS—N. Bengell, J. Cotten	P	P
HERE WE GO ROUND MULBERRY BUSH		FG
HIGH, WILD AND FREE—Doc., British Columbia		FG
HILLS RUN RED—T. Hunter, H. Silva	F	FG
HIPPIE REVOLT—Documentary		FG
HOUR OF THE GUN—J. Garner, J. Robards	GF	FG
HOUSE OF 1,000 DOLLS—M. Hyer, V. Price	PF	P
HOW I WON THE WAR—J. Lennon	FG	FG
HOW TO SAVE MARRIAGE & RUIN LIFE	FG	FG
I, A LOVER (Danish-Swedish)—J. Ryg		F
I EVEN MET HAPPY GYPSIES (Yugoslavian)		FG
I'LL NEVER FORGET WHAT'S 'IS NAME		FG
IT—J. Haworth, R. McDowall	F	F
JACK OF DIAMONDS—G. Hamilton	F	F
JOHNNY YUMA—M. Damon, L. Dobkin	PF	P
KILL A DRAGON—J. Palance, F. Lamas	PF	PF
LAST CHALLENGE—A. Dickinson, G. Ford	F	F
LAST SAFARI—K. Garas, S. Granger	FG	F
LIVE FOR LIFE (Fr.)—A. Girardot, Y. Montand	G	G
LOVE AFFAIR (Yugoslavian)—E. Ras	G	G
LOVE MATES (Swedish)—C. Schollin, J. Kulle	F	F
LUV—J. Lemmon, E. May	FG	FG
MAIDEN FOR A PRINCE (Ital.)—V. Gassman		PF
MAN CALLED DAGGER—P. Mantee	FP	F
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MURDER CLINIC—F. Prevost, W. Berger		P
NAVAJO JOE—B. Reynolds, A. Sanbrell	P	P
NO WAY TO TREAT A LADY—R. Steiger	G	GF
NOBODY'S PERFECT—N. Kwan, D. McClure	F	PF
ONE & ONLY GENUINE ORIG. FAMILY BAND		F
OPERATION KID BROTHER—N. Connery	FP	P
THE PENTHOUSE—S. Kendall, T. Morgan	F	F
P.J.—G. Peppard, R. Burr	FG	F
POINT BLANK—A. Dickinson, L. Marvin	FG	F
POOR COW—C. White, T. Stamp	FG	GF
THE POWER—S. Pleshette, G. Hamilton	FG	F
PRESIDENT'S ANALYST—J. Coburn	GF	G
PRIVILEGE—J. Shrimpton, P. Jones	GF	G
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PSYCH-OUT—S. Strasberg, D. Stockwell		F
REFLECTIONS IN A GOLDEN EYE—E. Taylor	FG	FG
ROBBERY—S. Baker, J. Booth	FG	G
ROSIE—R. Russell, S. Dee	GF	FG
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SAVAGE PAMPAS—R. Taylor, R. Randall		F
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SEBASTIAN—S. York, D. Bogarde	GF	GF
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SERGEANT RYKER—L. Marvin, B. Dillman	GF	FG
SHANTY TRAMP—L. Holland, B. Rogers		F
SHUTTERED ROOM—C. Lynley, G. Young	FP	F
SMASHING TIME—L. Redgrave, R. Tushingham	FG	FG
SOL MADRID—S. Stevens, D. McCallum	F	F
THE STRANGER (Fr.)—M. Mastroianni	G	GF
SWEET NOVEMBER—S. Dennis, A. Newley	G	F
TALE OF THE COCK—L. Evans, D. Murray	F	FG
TARZAN AND THE GREAT RIVER	PF	P
TELL ME LIES—Royal Shakespeare Co.	GF	GF
THE TERRORNAUTS—S. Oates, C. Hawtrey	PF	P
THEY CAME FROM BEYOND SPACE	PF	P
TIGER AND THE PUSSYCAT—V. Gassman	F	G
TIGER MAKES OUT—A. Jackson, E. Wallach	GF	G
TIME FOR KILLING—G. Ford, G. Hamilton	F	F
TONIO KROGER (German)—J.-C. Brialy		F
TONY ROME—F. Sinatra, J. St. John	FG	F
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TRACK OF THUNDER—B. Benet, T. Kirk		F
TREASURE OF SAN GENNARO—N. Manfredi		FG
TWO WEEKS IN SEPTEMBER—B. Bardot	PF	PF
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UP THE MACGREGORS—D. Bailey		F
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VENGEANCE OF FU MANCHU—C. Lee		P
VENOM (Danish)—S. Stromberg	FG	FG
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WAY OUT—Nonprofessional cast	FG	FG
WHAT AM I BID?—L. Van Dyke, T. Ritter		P
WHO'S MINDING THE MINT?—D. Provine	GF	FG
WICKED DREAMS OF PAULA SCHULTZ	FP	P
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WILD REBELS—S. Alaimo, W. Pastrano	PF	F
WILL PENNY—J. Hackett, C. Heston	G	G
WOMAN AND TEMPTATION—I. Sarli, V. Bo		P

RETURNS AREN'T IN (BUT SCORED EXCELLENT OR GOOD BY CRITICS)

THE QUEENS (Ital.)—C. Cardinale, A. Sordi

30 IS A DANGEROUS AGE, CYNTHIA—D. Moore

WE STILL KILL THE OLD WAY (Ital.)—G. M. Volonte

CU would like to have as many readers as possible participate in its movie poll. If you attend the movies fairly regularly, and would like to take part, please write to Movie Reviews, Consumers Union, 256 Washington Street, Mt. Vernon, N.Y., 10550, asking for a supply of postage-paid rating cards.

LETTERS
continued from page 226

thing like "The Handbook" than in magazine and newspaper stories that minimize the importance of U.S.P. standards or ballyhoo some "great new drug discovery" in order to build a market for it.

Regarding my decision to make topical hydrocortisone a "basic" preparation, CU's medical consultants say that "many dermatologists consider newer steroids more effective." They are correct. Bear in mind, however, that "The Handbook" defines "basic drugs" as those that suffice for the care of 90 per cent or more of patients ordinarily treated by general practitioners or internists. Dermatologists tend to see a selected group of patients—those who have already been unsuccessfully treated by the family doctor or who have very extensive skin disease to start with. In more than four years of practice as a family physician, I have encountered only two patients with a skin or mucous membrane abnormality that I thought would respond to topical steroid cream and did not respond to topical hydrocortisone. Naturally, I sent both to a dermatologist. He straightened out one by simply increasing the concentration of the hydrocortisone cream, and in the other case I believe he did have to switch (successfully) to one of the newer, and more costly, topical steroids. It is always perilous to speak of a medical judgment as "correct" or "incorrect." In face of the facts and my own experience, I still believe that, as of now, topical hydrocortisone is "basic" for the family doctor.

I deliberately omitted the brand-name drug, *Hygroton*, from the list of oral diuretics because I like to avoid long-acting drugs, if possible. In case of adverse reaction, it is nice to know that once a medication has been discontinued it will disappear rapidly from the body. And there is another reason for avoiding *Hygroton*: I believe that patients ought to make their urine during the day and be allowed to use the nighttime to sleep. Safety and important convenience weigh more than economy, so I always prescribe a short-acting thiazide, of which *Metahydrin* is at present the least costly.

Thirty-six pages, as you say, is a lot of space to devote to proving that "nearly half of the recalls involved products of the largest and best-known corporations," but it seemed to me that the most effective way to grapple with the widespread misconception that brand name drugs are somehow more likely to be reliable than generic counterparts was to place all of the available facts before the medical profession and the public in detail and in context.

Now that this has been done, it may not be necessary to do it again.

The "primary purpose" in publishing the list of companies qualified to submit bids on government contracts (Appendix A) was, as "The Handbook" states, "to give emphasis to the fact that there are many manufacturers of drugs and medical supplies in addition to those whose names are household words." I was very much aware that a few in this list of over 550 firms had been the objects of Actions Involving the Current Good Manufacturing Practice Section of the Pure Food and Drug Law.

However, Appendix A is not the one containing names, addresses and telephone numbers of companies selling generic drugs. *That* appendix, B, lists about two dozen little-known drug houses that offer a full or nearly full line of basic generics, and that, during the 33 months ending June 1965, had no public record of many or of serious troubles with recalls. Those are the firms from whose catalogs I took the wholesale prices of generics for the Prescription Drug List. Perhaps I underestimated the likelihood that readers would try to use Appendix A uncritically, because unbiased critics in addition to CU have found fault with the inclusion of Appendix A, and for the very same reason. In the interest of clarity, it will be dropped from further editions. Of course, I agree with CU that even Appendix B *ought* to be unnecessary.

LONDON, ENGLAND RICHARD BURACK, M.D.

Nonsmoker insurance rates

I have recently heard that some life insurance companies offer reduced premiums to nonsmokers. Do you have any information on which?

SOMERSET, N.J. S.B.H.

The following list may not be comprehensive but names all companies we know to be offering nonsmoker premium rates: Executive Life Insurance Company, Beverly Hills, Calif.; Farmers New World Life Insurance Company, Mercer Island, Wash.; Ohio State Life Insurance Company, Columbus; Phoenix Mutual Life Insurance Company, Hartford, Conn.; Puritan Life Insurance Company, Providence, R.I.; and State Mutual Life Assurance Company of America, Worcester, Mass. Only State Mutual operates in every state. Puritan sells in every state except New York, and Phoenix Mutual in most states. The rest are mainly regional.

Dr. William H. Stewart, Surgeon General of the U.S., has encouraged nonsmoker insurance plans, noting that death rates between age 45 and 65 are 70 per cent higher among men who smoke cigarettes than among men who do not. Thus far, however, the insurance companies that do take into account the hazards of smoking accord the nonsmoker only token rate recognition. Typically, State Mutual's nonsmoker policy, which it calls its Preferred Protector (available to males who have not smoked cigarettes in the 12 months preceding their application for insurance) is ordinary (whole) life, a combination of insurance protection and a savings account. The premium rate is 2.5 to 3 per cent lower than for the same company's standard-risk ordinary life plan. For a man taking out a $10,000 policy at age 35, the saving would be $6.10 per year, perhaps not a very strong incentive to stop smoking.

You might expect much larger reductions in premiums for buyers of term insurance in the 45 to 65 age bracket, but none of the above companies has a nonsmoker rate on term plans. For anyone who intended to buy a term policy, the availability of a nonsmoker rate on whole life would not, in CU's judgment, make it worthwhile to switch to that plan. For that matter, the shopper looking for an ordinary life plan cannot be at all sure that one company's nonsmoker rate will give him a lower price for insurance protection than another company's standard rate.

The puny battery ploy

The hard-sell pitch at gas stations mentioned in the Letters column ("Shocking shock absorber," CONSUMER REPORTS, October 1967) flourishes in the West too. This summer I stopped for gas in Carson City, Nev., and was subjected to the "Puny Battery Ploy." I watched the clean-cut young attendant fuss under the hood, attach a little machine to the battery and study it carefully. He slowly removed the machine and gently lowered the hood. He looked very sad, like a doctor gently placing a sheet over a lost patient.

"Lady, I wouldn't drive two blocks in this car," he announced somberly. "The battery's nearly dead! It's too small for your big car with power equipment. Did you have that small battery installed?"

"No, it came with the car."

"Your car's three years old. You need a new battery. If this one went dead while the air conditioner was going, your motor would burn out. It would cost you over $500 to repair it! Your car could conk out any minute."

My heart sank. It was a blistering hot day and I and my three passengers were driving to Lake Tahoe via Daggett's Pass. I envisioned a car stalled in the desert and four skeletons bleaching in the sun. I was about to beg him to install the best battery he had when I changed my mind and decided to take the car to another garage in town. There I learned that the battery was in prime condition and that "anything larger would be for a truck."

SAN RAFAEL, CALIF. I.M.

The "poor man's credit card"

In the recent article on consumer credit, you referred to such credit cards as the Midwest Bank card as, essentially, a poor man's substitute for the American Express, Diners Club, or Carte Blanche cards. I think you've made a serious error. You have acted snobbishly and neglected the very point of your writings: maximum value for purchases.

I don't care if persons of doubtful credit rating got Midwest cards—or that I got three!—as long as they permit me to charge what and where I wish when I wish. My comparison *must* be the cost and convenience of each card type. Why should I pay

$12 a year for the "privilege" of charging an airline ticket on American Express when I can get a Midwest card free and make the same charge purchase? Why pay Carte Blanche a fee to charge a motel room when I can do the same on a Standard Oil card for which I pay nothing? I can't justify the fees; I've dropped both American Express and Carte Blanche.

If I choose to use a credit card for 30-day account buying instead of paying cash, I recognize that I may be paying inflated prices because the merchant pays about 6 per cent off the top to the credit-card house for handling the account. I can try (and have done so successfully) to bargain with a merchant: offer him cash for his price less 6 per cent or let him charge the sale and pay the credit-card house. But that's another matter.
ZIONSVILLE, IND. J.P.S.

Bank credit cards are called the "poor man's credit card" because almost anyone seems eligible for one. Issuers of the membership type of card (Diners Club, American Express, etc.) usually require cardholders to meet some minimum income standard. Diners Club, for instance, quotes $8000 to $10,000 a year to inquirers in New York City. We didn't mean to be snobbish, and J.P.S. is perfectly right that the person who intends to use a bank card as a 30-day charge account may get better value from his card than he would by using a dues-paying membership in an all-purpose travel-card plan. He may, that is, unless the bank charges a monthly minimum fee to card-holders.

It has come to our attention that the two types of credit are being combined in some bank plans. Holders of American Express cards can pay their bills to the bank under a revolving credit type of overdraft checking account. Such people pay *both* the annual dues and a monthly credit charge. We have also seen direct-mail solicitations from oil companies offering revolving credit on their credit cards for such items as tires and batteries. Card users need to be on their guard if they wish to avoid paying service charges these days.

Revolt against service charges?

I have read with great interest the September issue of CONSUMER REPORTS containing the article "The Big Hole in Truth-in-Lending." And I thank you for a job well done.

Let me tell you how I licked the so-called revolving credit rat race. I simply refuse to pay the so-called service charges. It's as simple as that. Sears, Roebuck and I have been playing a little game of one-upmanship for close to two years now. So far, I've won—*and* saved myself a good deal of small change in the bargain.

God only knows which credit system they use: I never could figure it out. All I know is I pay for exactly what I buy, period. I simply explained to them that if they wanted *my* business (and if they did not, there were others who did), they would have to make

Continued on next page

"Consumer Education: Its New Look"

The flood of TV commercials, the lure of easy credit, and the multiplicity and complexity of consumer products and services compound consumer problems in the affluent '60s. Recognizing this, the National Association of Secondary School Principals has devoted an issue of its bulletin to consumer education, as seen by experts in the field. CU believes the excellent presentation deserves a wider audience—of teachers, administrators and interested parents. We have therefore arranged for a special CU edition of the Bulletin of the NASSP. 115 pages. Price $2.

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___ **Consumer Education: Its New Look** Oct. 1967 NASSP Bulletin ($2).

___ **Health Guide for Travelers** (1967 revised and enlarged edition, 50¢).

___ **The Consumers Union Report on Family Planning** (subscriber, $1; nonsubscriber, $1.75).

___ **The Real Voice** by Richard Harris (for CU subscribers only, $1.50).

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LETTERS continued

certain allowances for *my* bookkeeping. In other words, any bill reaching me before the end of any given month (when I close *my* books) will be paid in full by the end of the following month. Any bill arriving after the first of the month—when I make up my monthly budget, to which I adhere rigidly —is out of luck until the following month.

Oh, we've had it round and round over this—the so-called service charges come and go; maybe they get fed up fighting about it. They evidently do want my business badly enough to take the loss of my few pennies. And, furthermore, I can't quite see them sending the sheriff after me for—what is it this month?—12¢, I think. Well, it may be small change for them, not worth fighting about, but, let me tell you, it is one big fat victory for *me*.

PARSIPPANY, N.J. S.A.M.

A local chain of supermarkets and discount houses has always had a charge-card on which I was used to paying 1½ per cent interest or a minimum of 15¢ on my account if it were not paid in the normal 30-day period. Recently, my bill for $3.74 arrived with a 50¢ service charge attached. It was a new form of bill with a return address merely a P.O. box in Fremont (about 100 miles away) and actually postmarked from Oklahoma City, Okla. I wrote the company that I had no intention of paying such an outrageous service charge and paid the $3.74. My next month's bill, which had no overdue balance on it, had another 50¢ tacked on.

A telephone conversation with the credit department revealed that the second 50¢ was a service charge on the 50¢ service charge remaining from the previous month. I was informed that "that's the way the computer works. Everybody's going to computer charges these days, you know." Since I do not intend to use the charge card anymore under such a system, I am looking forward to a mounting bill each month as the marvelous computer tacks on another 50¢.

SACRAMENTO, CALIF. S.M.B.

Electric blankets for youngsters?

I'm thinking of buying electric blankets for my children, one a year old, the other three. But are they safe for children young enough to wet them? Your report on electric blankets in November failed to mention this problem.

KANSAS CITY, KAN. D.M.Z.

Since we found the tested electric blankets electrically safe even after an hour in salt water, we don't think they would pose a shock hazard to a bed-wetting child. Nevertheless, we would advise against using an electric blanket on a crib or any other small bed lest wired portions of the blanket get tucked under the mattress. That could cause hot spots and other malfunctions. We would also recommend against an electric blanket for a child too young to regulate the controls or to recognize when the blanket is not functioning properly.

CUMULATIVE INDEX

FOR CONTENTS OF THIS ISSUE SEE PAGE 227

The index in this issue includes principal subjects covered in the preceding 11 regular issues of CONSUMER REPORTS. (The December Buying Guide Issue, for use through 1968, carries its own index, which covers virtually all product reports published during 1967, plus a number of earlier ones.) Page numbers run consecutively for each year. 1967 issues appear in regular type; 1968 issues in **heavy type.** Sequences are as follows: May, 241-292; June, 293-344; July, 345-404; August, 405-456; September, 457-508; October, 509-560; November, 561-620; January, **1-60;** February, **61-112;** March, **113-164;** April, **165-224.**

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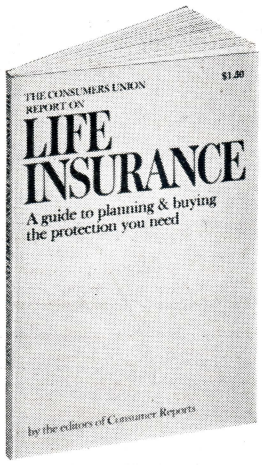
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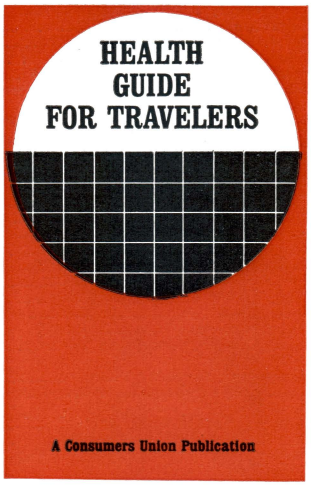

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